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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Nicole Barrett Examiner # : 76619 Date: 8/1/03
Art Unit: 1756 Phone Number 30 Y - 796 Y Serial Number: 10/072,360
Mail Box and Bldg/Room Location: CP3 Results Format Preferred (circle): PAPER DISK E-MAIL
90-29

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Three dimensional microstructures and method of making

Inventors (please provide full names): Lawrence Bowman, Glen Dunham

Earliest Priority Filing Date: 2/6/02

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

US20030148222

See attached claims

****

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: Call	NA Sequence (#)	STN ✓
Searcher Phone #:	AA Sequence (#)	Dialog
Searcher Location:	Structure (#) ✓	Questel/Orbit
Date Searcher Picked Up: 8/7	Bibliographic	Dr.Link
Date Completed: 8/20	Litigation	Lexis/Nexis
Searcher Prep & Review Time: 120	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet
Online Time: 120	Other	Other (specify)

PTO-1590 (8-01)

```
=> file hca
FILE 'HCA' ENTERED AT 10:42:02 ON 07 AUG 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
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FILE COVERS 1907 - 31 Jul 2003 VOL 139 ISS 6
FILE LAST UPDATED: 31 Jul 2003  (20030731/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> d his

     (FILE 'HOME' ENTERED AT 08:32:07 ON 07 AUG 2003)

     FILE 'HCA' ENTERED AT 08:32:26 ON 07 AUG 2003
                E US20030148222/PN
L1           5895 S BOWMAN ?/AU
L2           1323 S DUNHAM ?/AU
L3              1 S L1 AND L2

     FILE 'REGISTRY' ENTERED AT 09:09:07 ON 07 AUG 2003
                  E 28906-96-9/RN
L4                1 S E3
L5                7 S 28906-96-9/CRN
                  E 89452-37-9/RN
L6                1 S E3
                  E 71449-78-0/RN
L7                1 S E3
L8            41634 S EP/PCT
L9            18512 S L8 AND 3-4/NC
L10           27648 S L8 AND 0-4/NC
                  E 80-06-0/CRN
                  E 106-89-8/CRN
L11           22379 S E3
                  E 80-05-7/CRN
L12           24737 S E3
L13           14520 S L11 AND L12
L14            6516 S L9 AND L13
L15               2 S L6 OR L7

     FILE 'HCA' ENTERED AT 09:21:16 ON 07 AUG 2003
L16              37 S L4
L17             167 S L15
L18               0 S L16 AND L17
L19           11401 S L14
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L20           4 S L19 AND L17

     FILE 'LCA' ENTERED AT 09:24:06 ON 07 AUG 2003
L21        7064 SEA ABB=ON  PLU=ON  FILM? OR THINFILM? OR LAYER? OR OVERLAY?
                OR OVERLAID? OR LAMIN? OR LAMEL? OR MULTILAYER? OR SHEET? OR
                LEAF? OR FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT?
L22         307 SEA ABB=ON  PLU=ON  PHOTOSENS? OR (PHOTO# OR LIGHT OR UV OR E
                OR ELECTRON)(2A)(SENS?)
L23           0 SEA ABB=ON  PLU=ON  ELECRON##(A)BEAM?
L24          29 SEA ABB=ON  PLU=ON  (ELECRON## OR E)(A)BEAM?
L25        5337 SEA ABB=ON  PLU=ON  POLYMER## OR HOMOPOLYMER## OR COPOLYMER##
                OR TERPOLYMER## OR RESIN? OR GUM?
L26         425 SEA ABB=ON  PLU=ON  EPOX#####(2A)L25
L27           7 SEA ABB=ON  PLU=ON  CONFORMAL?
L28        4195 SEA ABB=ON  PLU=ON  POT###### OR ENCAPSUL?
L29        4358 SEA ABB=ON  PLU=ON  POLYMERIZ? OR POLYMERIS? OR POLYM# OR
                CURE# OR CURING# OR DIGEST? OR CROSSLINK? OR CROSS(W)LINK? OR
                VULCANIZ? OR VITRIF? OR GEL?


     FILE 'REGISTRY' ENTERED AT 09:31:22 ON 07 AUG 2003
                E 71449-78-0/RN
L30           1 S E3
                E 106797-53-9/RN
L31           1 S E3
                E 162881-26-7/RN
L32           1 S E3
                E 947-19-3/RN
L33           1 S E3
                E 145052-34-2/RN
L34           1 S E3
                E 954-16-5/RN
L35           1 S E3
                E 134-84-9/RN
L36           1 S E3
                E 131-58-8/RN
L37           1 S E3
                E 6175-45-7/RN
L38           1 S E3
L39          10 S L6 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR
                E 25068-38-6/RN
L40           1 S E3
                E 3101-60-8/RN
L41           1 S E3
L42          91 S 3101-60-8/CRN
L43        9136 S L8 AND 0-2/NC
L44       14176 S L8 AND L13
L45           1 S L44 AND 0-2/NC

     FILE 'LREGISTRY' ENTERED AT 09:42:05 ON 07 AUG 2003

     FILE 'REGISTRY' ENTERED AT 09:42:52 ON 07 AUG 2003
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                E 163702-08-7/RN
L46           1 S E3
                E 163702-07-6/RN
L47           1 S E3
                E 163702-06-5/RN
L48           1 S E3
                E 163702-05-4/RN
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L49           1 S E3
                E 86508-42-1/RN
L50           1 S E3
L51           5 S L46 OR L47 OR L48 OR L49 OR L50

     FILE 'LREGISTRY' ENTERED AT 09:46:42 ON 07 AUG 2003

     FILE 'REGISTRY' ENTERED AT 10:05:13 ON 07 AUG 2003
L52        9031 S FLPO/PCT
                E CARBON DIOXIDE/CN
L53           1 S E3

     FILE 'HCA' ENTERED AT 10:06:41 ON 07 AUG 2003
L54       26704 S L40 OR L41 OR L42
L55       36492 S L54 OR L19
L56        3300 S L39
L57        3300 S L17 OR L56
L58       67533 S L52
L59         272 S L51
L60      162700 S L53
L61      422506 S CO2 OR (CARBON#)(N)(DIOXIDE# OR DI(W)OXIDE#)
L62      427890 S L61 OR L60
L63        5398 S L62(2N)(LIQ# OR LIQUID#)
L64        9555 S L62(2N)(SOLV? OR SOLN#)
L65        5666 S L63 OR L59
L66         159 S L55 AND L57
L67           1 S L66 AND L58
                E FLUORPOLYMER+ALL/CV
                E FLUOROPOLYMER+ALL/CV
                E FLUOROPOLYMER+ALL/CV
L68       58075 S FLUOROPOLYMER? OR FLUORO(N)L25
L69           0 S L66 AND L68
L70         739 S L55 AND L58
L71         280 S L70 AND L29
L72      120504 S L22
L73           2 S L71 AND L72
L74       38928 S PHOTORESIST? OR PHOTO(N)RESIST?
L75           2 S L71 AND L74
L76      394785 S UV OR L24
L77          80 S L66 AND L76
L78          77 S L77 AND L25
L79      407789 S 74/SX,SC
L80          47 S L66 AND L79
L81           0 S L47 AND L78
L82     2944936 S L21
L83          29 S L80 AND L82
L84           1 S L80 AND (L27 OR L28)
L85           6 S L67 OR L73 OR L75 OR L84
L86           6 S L85 NOT L20
L87          12 S L83 AND L22
L88       14727 S L65 OR L64
L89           0 S L66 AND L88
L90        7385 S CONFORMAL####
L91           0 S L83 AND L90
L92           0 S L66 AND L90

     FILE 'LCA' ENTERED AT 10:26:42 ON 07 AUG 2003
L93          84 S FLUOROCARB? OR PERFLUOROCARB? OR FLUOROCHEM? OR PERFLUOROCHEM
L94         930 S BUTANE OR C4H10 OR PENTANE# OR C5H12 OR HEXANE# OR C6H14 OR H
L95        1181 S ETHER#
```

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     FILE 'HCA' ENTERED AT 10:31:37 ON 07 AUG 2003
L96       26564 S L93
L97      784065 S L96 OR L94 OR L95
L98          41 S L66 AND L97
L99      341611 S L93 OR L94
L100          4 S L66 AND L99
L101      36874 S PHOTOCUR? OR PHOTOINIT?
L102      37829 S PHOTOCUR? OR PHOTOINIT? OR PHOTO(N)(CUR? OR INIT?)
L103         91 S L66 AND L101
L104         63 S L103 AND L21
L105     883810 S SOLVEN? OR SOLV?
L106          2 S L104 AND L105
L107         17 S L104 AND (L22 OR L24 OR L27 OR L28)
L108         11 S L87 NOT (L85 OR L20)
L109          6 S L100 OR L106
L110          6 S L109 NOT (L20 OR L85 OR L87)
L111         12 S L107 NOT (L20 OR L85 OR L87 OR L109)

     FILE 'HCA' ENTERED AT 10:42:02 ON 07 AUG 2003
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****

L20 was the search for claim 1. Since I didn't get any hits on the 3 registry numbers I searched the 2 of the 3 monomers for 28906-96-9. Polymers are a bit confusing because the polymer (monomer1 + monomer 2 + monomer 3...) has a separate registry number from the INDIVIDUAL momoners. You can search the monomers as a COMPONENT (one of four monomers) of a polymer. The reg. # in claim 1 had 3 monomers, I searched on 2 of the 3 monomers (the essential ones.)

=> d L20 1-4 ibib abs hitstr

L20 ANSWER 1 OF 4 HCA COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 134:238561 HCA
TITLE: Encapsulant for an inkjet printhead having electrical leads in an aqueous environment
INVENTOR(S): Patil, Girish Shivaji
PATENT ASSIGNEE(S): Lexmark International, Inc., USA
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6203871	B1	20010320	US 1998-172057	19981014

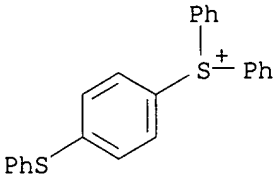
PRIORITY APPLN. INFO.: US 1998-172057 19981014

AB An article, specifically an inkjet printhead, having elec. leads in an aq. environment in which the leads are encapsulated in a thoroughly cured mixt. of 88 parts bis-phenol A epoxy oligomer, 11 parts epoxy novolac oligomer, and 1 part triarylsulfonium hexafluoroantimonate salts. No special atm. is required during manuf. and the uncured mixt. has a long pot life. The cured mixt. has excellent resistance to an aq. environment. Thus, encapsulant compn. comprising Epon 828 88, DEN 431 11. and UVI 6974 1% was mixed, applied on to tab bond elec. leads on an inkjet printhead, uv was irradiated, and the encapsulates the leads to protect them from contamination.

IT **71449-78-0 89452-37-9**
RL: CAT (Catalyst use); USES (Uses)
(UV cure initiator component; encapsulant for inkjet printhead having elec. leads in aq. environment)
RN 71449-78-0 HCA
CN Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

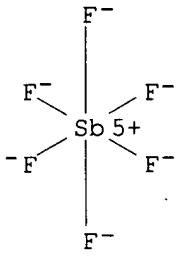
CM 1

CRN 47480-44-4
CMF C24 H19 S2



CM 2

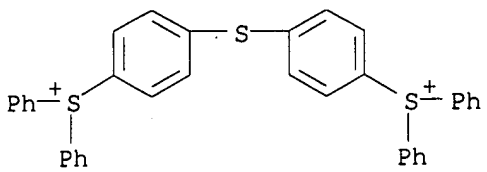
CRN 17111-95-4
CMF F6 Sb
CCI CCS



RN 89452-37-9 HCA
CN Sulfonium, (thiodi-4,1-phenylene)bis[diphenyl-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

CM 1

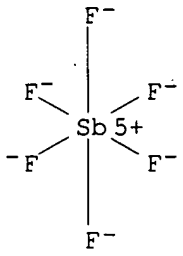
CRN 74227-34-2
CMF C36 H28 S3



CM 2

CRN 17111-95-4

CMF F6 Sb
CCI CCS



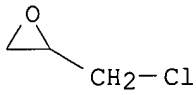
IT **329776-76-3P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(encapsulant for inkjet printhead having elec. leads in aq. environment)
RN 329776-76-3 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and DEN 431 (9CI) (CA INDEX NAME)

CM 1

CRN 37348-52-0
CMF Unspecified
CCI PMS, MAN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

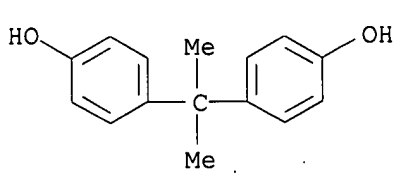
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



CM 3

CRN 80-05-7
CMF C15 H16 O2



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 2 OF 4 HCA COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 133:322562 HCA
TITLE: Cationically radiation-curable resin compositions and moldings and cationic initiators for use in them

INVENTOR(S): Ichimura, Kunihiro
PATENT ASSIGNEE(S): Toda Kogyo Corp., Japan
SOURCE: Jpn. Tokkyo Koho, 16 pp.
CODEN: JTXXFF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 3102640	B1	20001023	JP 1999-229490	19990813
JP 2001048905	A2	20010220		

PRIORITY APPLN. INFO.: JP 1999-229490 19990813
OTHER SOURCE(S): MARPAT 133:322562

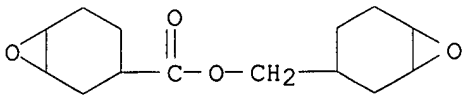
AB The compns. comprise (A) cationic polymerizable org. compds., (B) radiation-sensitive cationic initiators and (C) acid propagation additives which are generated from the acids derived from B or disulfonic acid cycloalkyl esters. Thus, coating a mixt. of Cyracure UVI 6990 (sulfonium photoinitiator) 4, 1,4-bis(p-toluenesulfonyloxy)cyclohexane 1 and 3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexnanecarboxylate 100 parts on a polyester film to dry thickness 4 .mu.m gave a coat film curable by UV light.

IT **77272-87-8**, Bisphenol A-epichlorohydrin-3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexnanecarboxylate copolymer **302907-15-9**
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(cationically radiation-curable resin compns. and moldings and cationic initiators for use in them)

RN 77272-87-8 HCA
CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

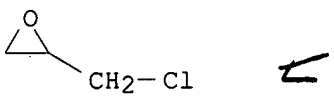
CM 1

CRN 2386-87-0
CMF C14 H20 O4



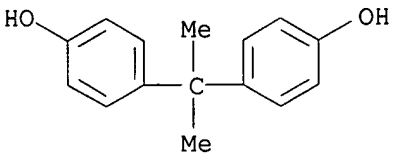
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



CM 3

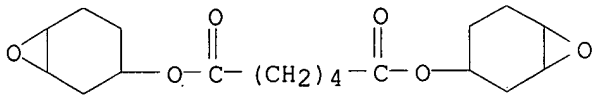
CRN 80-05-7
CMF C15 H16 O2



RN 302907-15-9 HCA
CN Hexanedioic acid, bis(7-oxabicyclo[4.1.0]hept-3-yl) ester, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

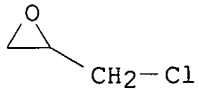
CM 1

CRN 83996-66-1
CMF C18 H26 O6



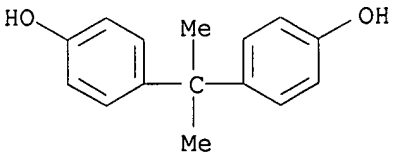
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



CM 3

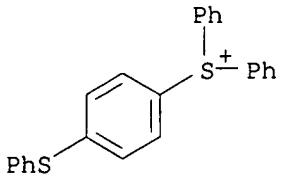
CRN 80-05-7
CMF C15 H16 O2



IT **71449-78-0**, Diphenyl(p-phenylthiophenyl)sulfonium hexafluoroantimonate
RL: CAT (Catalyst use); USES (Uses)
(photoinitiator; cationically radiation-curable resin compns. and moldings and cationic initiators for use in them)
RN 71449-78-0 HCA
CN Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

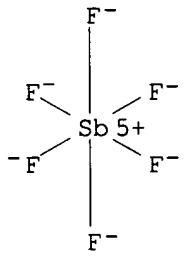
CM 1

CRN 47480-44-4
CMF C24 H19 S2



CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS

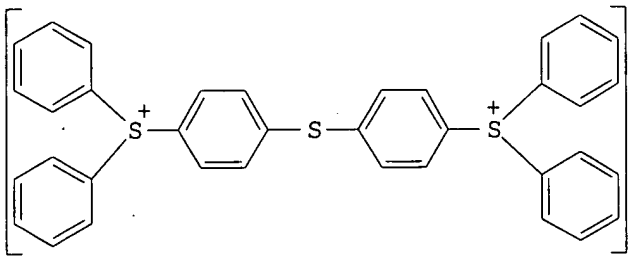


L20 ANSWER 3 OF 4 HCA COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 112:22444 HCA
TITLE: Radiation-curable resin composition containing epoxy resin and monomer with ethylenically unsaturated bond
INVENTOR(S): Noguchi, Hiromichi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 307919	A2	19890322	EP 1988-115154	19880915
EP 307919	A3	19890614		
EP 307919	B1	19930519		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 5068259	A	19911126	US 1988-244303	19880915
AT 89584	E	19930615	AT 1988-115154	19880915
ES 2040791	T3	19931101	ES 1988-115154	19880915
JP 02153916	A2	19900613	JP 1988-231647	19880916
JP 2549423	B2	19961030		

PRIORITY APPLN. INFO.: JP 1987-229492 19870916
JP 1988-159077 19880629
EP 1988-115154 19880915

GI



I

AB Radiation-curable compns., useful for coatings, comprise a acrylic graft polymer having no.-av. mol. wt. (Mn) .gtoreq.5000 and wt.-av. mol. wt. (Mwt) .ltoreq.50,000, a linear acrylic polymer having Mn .gtoreq.5000 and Mwt 350,000 and glass-transition temp. (Tg) .gtoreq.60.degree., an epoxy resin having .gtoreq.1 epoxy group/mol., an ethylenically unsatd. bond-contg. monomer, and a polymmn. initiator capable of generating a Lewis acid when irradiated. A compn. of Bu acrylate-glycidyl methacrylate-2-hydroxyethyl methacrylate-Me methacrylate graft copolymer (Mn 5500, Mwt 40,000) 50, PMMA (Mn 70,000, Mwt 250,000) 50, Epikote 152 50, Celloxide 2021 20, acrylic ester of Epikote 828 50, sulfonium salt I as polymn. initiator 8, Irgacure 651 as polymn. initiator 10, Me Cellosolve 200, and MEK 100 parts was coated on a glass plate and dried 15 min at 100.degree. to obtain a 40-.mu.m film, which was irradiated with a UV at 100 mW/m2 for 60 s and heated 30 min at 150.degree.. The resultant film showed excellent adhesion to glass plate and no chloroisis or bulging phenomena.

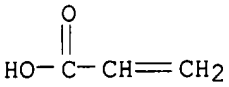
IT **55818-57-0**
RL: USES (Uses)
(acrylic graft copolymer coatings contg. linear acrylic polymers and epoxy resins and, radiation-curable)

RN 55818-57-0 HCA

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2

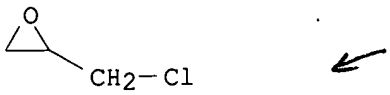


CM 2

CRN 25068-38-6
CMF (C15 H16 O2 . C3 H5 Cl O)x
CCI PMS

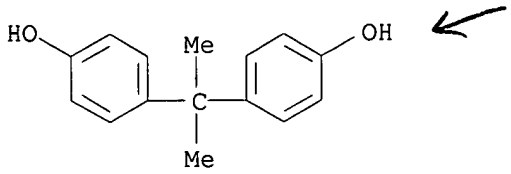
CM 3

CRN 106-89-8
CMF C3 H5 Cl O



CM 4

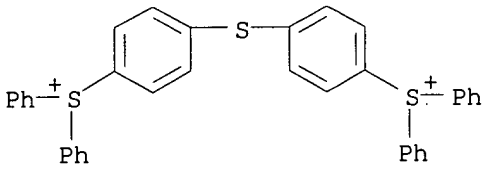
CRN 80-05-7
CMF C15 H16 O2



IT **89452-37-9**
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for photocrosslinking of coatings contg. acrylic graft copolymers and epoxy resins and acrylic epoxy resins)
RN 89452-37-9 HCA
CN Sulfonium, (thiodi-4,1-phenylene)bis[diphenyl-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

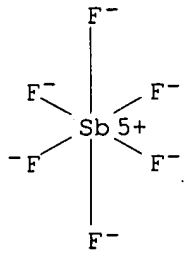
CM 1

CRN 74227-34-2
CMF C36 H28 S3



CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS



L20 ANSWER 4 OF 4 HCA COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 109:7685 HCA
TITLE: Manufacture of heat-resistant resin molding materials for optical devices
INVENTOR(S): Omoya, Kazunori
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62283121	A2	19871209	JP 1986-126042	19860530

PRIORITY APPLN. INFO.: JP 1986-126042 19860530

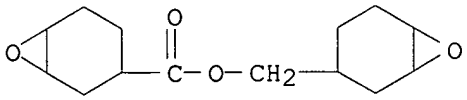
AB Title resins, useful for lenses and optical disks, are prepd. by photopolymn. of epoxy compds. in the presence of 0.01-5% cationic polymn. catalysts. Thus, a 1:4 mixt. of Epikote 828 and ERL 4221 (epoxy compds.) contg. 0.5% [4-(phenylthio)phenyl]diphenylsulfonium hexafluoroantimonate was polymd. by UV for 10 s and molded to give a product showing softening point 270.degree., molding time 1-2 h, av. light transmittance (500-800 nm) 90%, and birefringence 10 nm, vs. 92, 1-3, 92, and 15, resp., for injection-molded poly(Me methacrylate).

IT **77272-87-8 114955-41-8**
RL: USES (Uses)
(cationic catalysts for, photocurable, for optical app.)

RN 77272-87-8 HCA
CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

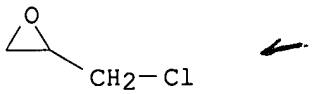
CM 1

CRN 2386-87-0
CMF C14 H20 O4



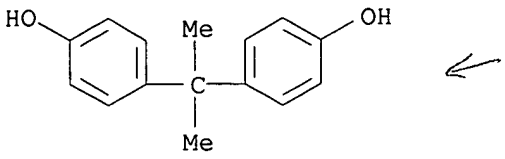
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



CM 3

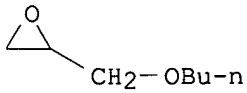
CRN 80-05-7
CMF C15 H16 O2



RN 114955-41-8 HCA
CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymer with (butoxymethyl)oxirane, (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

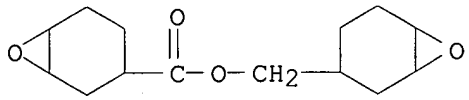
CM 1

CRN 2426-08-6
CMF C7 H14 O2



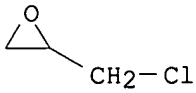
CM 2

CRN 2386-87-0
CMF C14 H20 O4



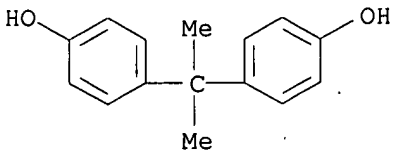
CM 3

CRN 106-89-8
CMF C3 H5 Cl O



CM 4

CRN 80-05-7
CMF C15 H16 O2

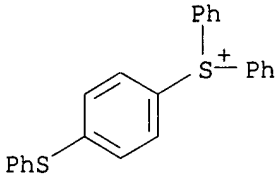


IT **71449-78-0**
RL: CAT (Catalyst use); USES (Uses)

(polymn. catalysts, epoxy resins contg., photocurable, for optical devices)
RN 71449-78-0 HCA
CN Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

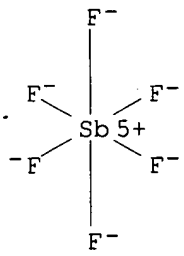
CM 1

CRN 47480-44-4
CMF C24 H19 S2



CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS



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For the rest of the searches I combined the registry numbers for the photo-sensitive material + curing agent + sacrifical material (fluoropolymers) + solvents.
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=> d L85 1-6 cbib abs hitind hitstr

L85 ANSWER 1 OF 6 HCA COPYRIGHT 2003 ACS on STN
136:255916 Paste for filling through hole and multilayer printed wiring board. Sumi, Hiroshi; Kojima, Toshihumi (NGK Spark Plug Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2002033275 A1 20020321, 18 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-904097 20010713. PRIORITY: JP 2000-212072 20000713.
AB A paste for filling a through hole, comprises: an epoxy resin; a **curing** agent; and a metal filler, in which the metal filler is a powder comprising a base metal, and the **curing** agent is an imidazole compd. (1): in which R1 represents a H atom, an alkyl group

having 1-10 C atoms, a hydroxyalkyl group having 1-10 C atoms or an alkyloxy group having 1-10 C atoms.

IC ICM H05K001-02
NCL 174262000
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38

IT **Crosslinking** agents
(**curing** agent; paste for filling through hole and multilayer printed wiring board)

IT Contact holes
Contraction (mechanical)
Delamination
Dielectric films
Electrically conductive pastes
Electrodeposition
Multilayers
Photoresists
Printed circuit boards
Solders
(paste for filling through hole and multilayer printed wiring board)

IT **25068-38-6**, Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); PROC (Process); USES (Uses)
(E828, epoxy resin filling paste compn.; paste for filling through hole and multilayer printed wiring board)

IT 7664-93-9, Sulfuric acid, processes 7757-83-7, Sodium sulfite
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(Sodium sulfite/sulfuric acid **photoresist** etching soln.; paste for filling through hole and multilayer printed wiring board)

IT 670-96-2, 2PZ 827-43-0, 2P4MZ 13682-32-1, 2P4MHZ 68490-63-1, 2PZ-OK
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(**curing** agent; paste for filling through hole and multilayer printed wiring board)

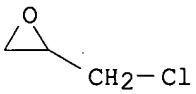
IT **9002-84-0**, PTFE
RL: DEV (Device component use); USES (Uses)
(substrate; paste for filling through hole and multilayer printed wiring board)

IT **25068-38-6**, Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); PROC (Process); USES (Uses)
(E828, epoxy resin filling paste compn.; paste for filling through hole and multilayer printed wiring board)

RN 25068-38-6 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

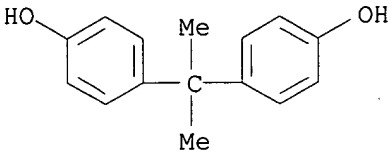
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

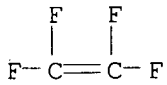
CRN 80-05-7
CMF C15 H16 O2



IT **9002-84-0**, PTFE
RL: DEV (Device component use); USES (Uses)
(substrate; paste for filling through hole and multilayer printed wiring board)
RN 9002-84-0 HCA
CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-14-3
CMF C2 F4



L85 ANSWER 2 OF 6 HCA COPYRIGHT 2003 ACS on STN
135:336909 Patterned films and their manufacture by electrodeposition.
Yamada, Takako; Ito, Nobuyuki (JSR Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001300951 A2 20011030, 14 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 2000-118245 20000419.

AB The films are manufd. by (1) **curing** photocurable compns. contg. (A) R1pSiX4-p (R1 = C1-12 non-hydrolyzable org. group; X = hydrolyzable group; p = 0-3), their hydrolyzates, and/or their condensates and (B) photoacid generators on a part of elec. conducting substrates to give nonconductive patterns, (2) electrodepositing particles contg. **polymerizable** compds. and/or polymers to give films, and (3) peeling the patterns. Elec. conducting layers contg. inorg. fine particles and/or F-contg. org. fine particles may be formed on the substrates before the electrodeposition. Chem.-resistant patterned films are obtained by easy peeling of the patterns from the substrates. The films are useful for elec. insulating protective layers, elec. insulating adhesives, etc. of semiconductor devices.

IC ICM B29C041-02
ICS B29C041-38; C08J007-04; C25D013-00; C25D013-06; C25D013-16; H01L021-312; B29K033-00; B29K063-00; B29K067-00; B29K079-00; B29L007-00; C08L083-04
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 76
ST silane **photoresist** patterned film manuf electrodeposition; chem resistance patterned film manuf silane **photoresist**
IT Epoxy resins, processes
Polyesters, processes
Polyimides, processes
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(electrodeposits; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT Chemically resistant materials
Electric insulators
Electrodeposition
Photoresists
Plastic films
(manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT Polysiloxanes, preparation
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)
(manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(releasing agents in conductive plating layers; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT 7440-02-0, Nickel, uses 7723-14-0, Phosphorus, uses 152443-73-7, Nimuflon
RL: TEM (Technical or engineered material use); USES (Uses)
(conductive plating layers; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT 81977-96-0P, Dimethyl isophthalate-dimethyl 5-sodiosulfoisophthalate-dimethyl terephthalate-ethylene glycol-neopentyl glycol copolymer 154500-23-9P **310906-13-9P** 370095-44-6P
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(electrodeposits; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT 252875-62-0P
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)
(manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate
RL: CAT (Catalyst use); USES (Uses)
(photoacid generators; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT 7631-86-9, Silica, uses **9002-84-0**, Polytetrafluoroethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(releasing agents in conductive plating layers; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
IT 7440-21-3, Silicon, processes 11109-50-5, SUS 304
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(substrates; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)

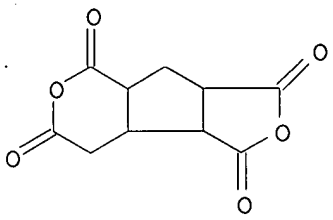
IT **310906-13-9P**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(electrodeposits; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)

RN 310906-13-9 HCA

CN 1H,3H-Furo[3',4':3,4]cyclopenta[1,2-c]pyran-1,3,5,7-tetrone, hexahydro-, polymer with (chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

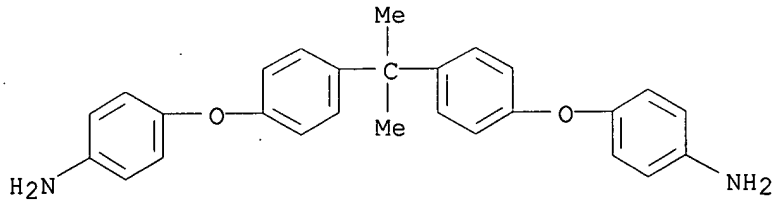
CM 1

CRN 87078-75-9
CMF C10 H8 O6



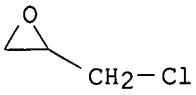
CM 2

CRN 13080-86-9
CMF C27 H26 N2 O2



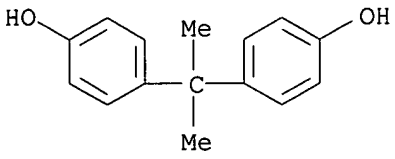
CM 3

CRN 106-89-8
CMF C3 H5 Cl O



CM 4

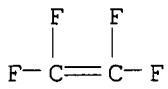
CRN 80-05-7
CMF C15 H16 O2



IT **9002-84-0**, Polytetrafluoroethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(releasing agents in conductive plating layers; manuf. of chem.-resistant patterned films using silane-based **photoresists** by electrodeposition)
RN 9002-84-0 HCA
CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

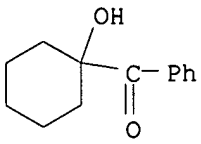
CM 1

CRN 116-14-3
CMF C2 F4



L85 ANSWER 3 OF 6 HCA COPYRIGHT 2003 ACS on STN
118:222802 Method for forming electrophotographic image by using sticking intermediate layer. Kato, Keiji; Shiozawa, Etsuo; Kishimoto, Yoshio (Fuji Shashin Film K. K., Japan; Nichiban K. K.). Jpn. Kokai Tokkyo Koho JP 04081786 A2 19920316 Heisei, 23 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-195693 19900724.
AB The title method involves transferring a toner image on a photoreceptor drum onto a sticky intermediate layer and retransferring the image on the intermediate layer onto a support. This method is characterized in that the photoconductor of the photoreceptor is made of an amorphous Si photoconductor having SiC surface, the toners are coated with a polymer having a cohesive energy .gtoreq.280, and the sticky intermediate layer is made of a urethane-(meth)acrylic resin as a main component and a sticking agent from an acrylic rubber, an unsatd. polyester resin, and/or a F-contg. additive. This method gives high contrast and high quality images by repetitive use of the intermediate layer.
IC ICM G03G015-16
ICS G03G005-08; G03G009-087; G03G015-20; G03G015-24
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT **947-19-3**, Irgacure 184 **24980-67-4**, Polytrifluoroethylene **25068-38-6**, Epon 1007 29294-36-8, Vylon 300 39278-79-0, Coronate L 60328-51-0, YS Polystar T-115 69458-65-7, Megafac F-183 73699-78-2, Coronate 2030 82030-85-1, Surflon S-145 82116-59-4, Shikoh UV 7000B 86923-91-3, LP-0011 101162-60-1, UA-3061 108251-12-3, Aronix M-1200 111565-18-5, Gohselac UV-4200B 113690-18-9, UV 3000B 147517-33-7, Modaflow F 100
RL: USES (Uses)
(sticky intermediate layer from, electrophotog. development by)
IT **947-19-3**, Irgacure 184 **24980-67-4**, Polytrifluoroethylene **25068-38-6**, Epon 1007
RL: USES (Uses)
(sticky intermediate layer from, electrophotog. development by)

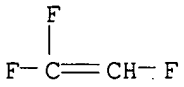
RN 947-19-3 HCA
CN Methanone, (1-hydroxycyclohexyl)phenyl- (9CI) (CA INDEX NAME)



RN 24980-67-4 HCA
CN Ethene, trifluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

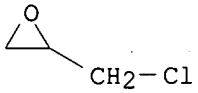
CRN 359-11-5
CMF C2 H F3



RN 25068-38-6 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

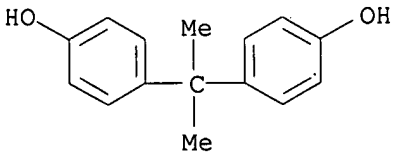
CM 1

CRN 106-89-8
CMF C3 H5 Cl O

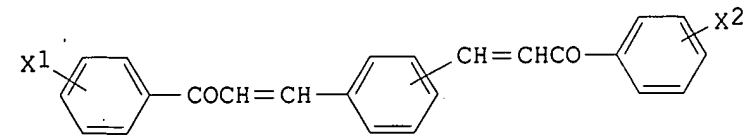


CM 2

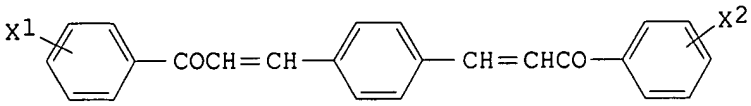
CRN 80-05-7
CMF C15 H16 O2



L85 ANSWER 4 OF 6 HCA COPYRIGHT 2003 ACS on STN
113:25053 Bis(benzoylvinyl)benzenes, their manufacture, resin compositions containing them, and **cured** products thereof. Nishikawa, Akio; Koyama, Toru; Asano, Hideki; Narahara, Toshikazu (Hitachi, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 01056643 A2 19890303 Heisei, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-212691 19870828.
GI



I



II

AB The title compds. (I; X1, X2 = NHR, OR, CN, C.tplbond.CH, unsatd. cyclic imide linked via N; R= H, CN) are prepd. and **crosslinked** in polymer compns. Maleic anhydride was added to II (X1 = X2 = NH2) in Me2CO at <5.degree. with stirring and the mixt. treated with Ac2O contg. KOAc to give II (X1 = X2 = maleimido), which (100 parts) was mixed with 2,2-bis[4-(4-maleimidophenoxy)phenyl]propane 100, quartz powder 7, stearic acid 2, and carbon black 1 part at 150-170.degree. to give a **crosslinked** polymer with glass-transition temp. 225.degree., flexural strength 535 kg/cm2 at 180.degree. and retaining 100% of that strength for 30 days at 200.degree.. Similarly prepd. were 3 addnl. I, which were also copolymd. with bisphenol A derivs.

IC ICM C07C049-796
ICS C07C049-835; C07C097-10; C07C121-76; C07C125-08; C07D207-448; C07D207-452; C07D209-76; C08F002-48; C08F016-36; C08F022-40; C08F246-00; G03C001-68; G03C001-71

CC 37-2 (Plastics Manufacture and Processing)
Section cross-reference(s): 25

ST benzoylvinylbenzene prepn **crosslinking** agent; **photosensitive** polymer intermediate bisbenzoylvinylbenzene; heat resistance polymer compn

IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(**crosslinking** agents for, bis[(aminobenzoyl)vinyl]benzene derivs. as)

IT **Crosslinking** agents
(photochem., bis(aminobenzoylvinyl)benzene derivs. as)

IT Polyesters, uses and miscellaneous
RL: USES (Uses)
(unsatd., **crosslinking** agents for, bis[(aminobenzoyl)vinyl]benzene derivs. as)

IT **9002-84-0**
RL: USES (Uses)
(bis[(ethynylbenzoyl)vinyl]benzene polymer blends, graphite-contg., as sliding surface for porous metal plates)

IT **124011-21-8** 124086-98-2
RL: USES (Uses)
(glass cloth prepregs, lamination of)

IT **124802-76-2**
RL: USES (Uses)
(potting compn., for one-megabit D-RAM chip)

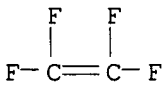
IT 123991-07-1P 123991-09-3P 124011-36-5P 124029-80-7P
RL: PREP (Preparation)
(prepn. of, as **crosslinking** agent)

IT **9002-84-0**
RL: USES (Uses)

(bis[(ethynylbenzoyl)vinyl]benzene polymer blends, graphite-contg., as sliding surface for porous metal plates)
RN 9002-84-0 HCA
CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

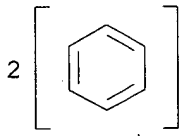
CRN 116-14-3
CMF C2 F4



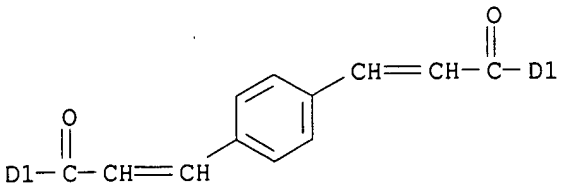
IT **124011-21-8**
RL: USES (Uses)
(glass cloth prepregs, lamination of)
RN 124011-21-8 HCA
CN Cyanic acid, 1,4-phenylenebis[(1-oxo-2-propene-3,1-diyl)phenylene] ester, polymer with (chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,1'-[1,4-phenylenebis[(1-oxo-2-propene-3,1-diyl)phenylene]]bis[1H-pyrrole-2,5-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 124011-20-7
CMF C26 H16 N2 O4
CCI IDS



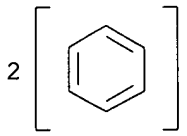
2 (D1—OCN)

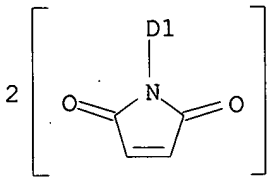


CM 2

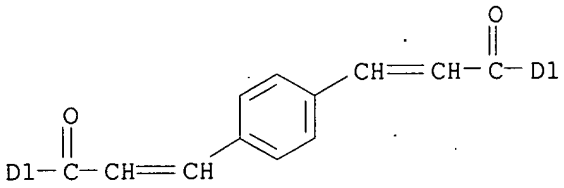
CRN 123991-07-1
CMF C32 H20 N2 O6
CCI IDS

PAGE 1-A



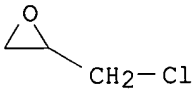


PAGE 2-A



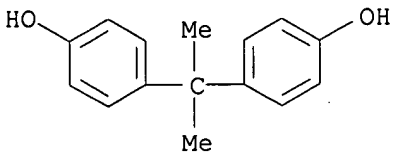
CM 3

CRN 106-89-8
CMF C3 H5 Cl O



CM 4

CRN 80-05-7
CMF C15 H16 O2



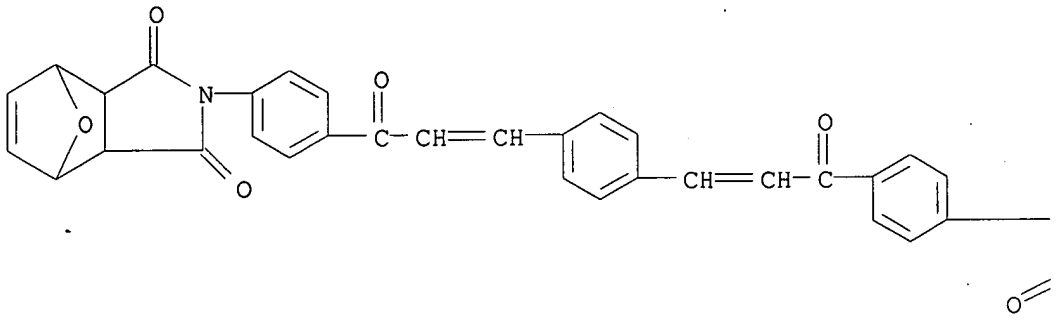
IT **124802-76-2**
RL: USES (Uses)
(potting compn., for one-megabit D-RAM chip)
RN 124802-76-2 HCA
CN 4,7-Epoxy-1H-isoindole-1,3(2H)-dione, 2-[4-[3-[4-[3-[4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)phenyl]-3-oxo-1-propenyl]phenyl]-1-oxo-2-

propenyl]phenyl]-3a,4,7,7a-tetrahydro-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

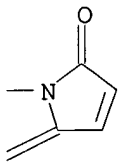
CM 1

CRN 124802-75-1
CMF C36 H24 N2 O7

PAGE 1-A

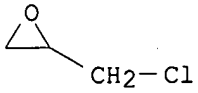


PAGE 1-B



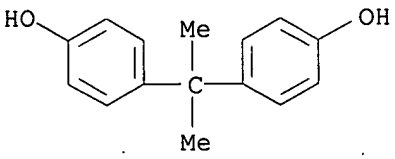
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



CM 3

CRN 80-05-7
CMF C15 H16 O2



L85 ANSWER 5 OF 6 HCA COPYRIGHT 2003 ACS on STN
108:7026 UV-curable polymer compositions. Okamoto, Shunei; Kitajima, Mitsuhiro (Nitto Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62104817 A2 19870515 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-245922 19851031.

AB The title compns., with long **pot** life and curable in thicknesses >1 mm without heat and useful for coatings, IC sockets, etc. (no data), contain curable acrylic polymers 80-99.8, 2-hydroxy-2-methyl-propiophenone (I) 0.1-10, and benzil di-Me ketal (II) or 1-hydroxycyclohexyl Ph ketone (III) 0.1-10%. A mixt. of trimethylolpropane triacrylate 50, cyclohexyl acrylate 30, 1,6-hexanediol diacrylate 20, I 5, and III 3 parts (**pot** life at 60.degree. .gtoreq.3 mo) was cured with a Hg lamp to a sheet with cure depth 1.8 mm and pencil hardness 3H; vs. 1.3 and 2B, resp., with II instead of I and III.

IC ICM C08F020-10
ICS C08F002-50; C08F299-02; G03C001-00; G03C001-68

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): **74**

IT Crosslinking catalysts
(photochem., arom. ketones and ketals, for acrylic polymers with long **pot** life)

IT 111885-82-6, Cyclohexyl acrylate-1,6-hexanediol diacrylate-trimethylolpropane triacrylate copolymer **111885-83-7**
111928-87-1
RL: USES (Uses)
(photocuring of, sensitizers for, for long **pot** life)

IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone 7473-98-5, 2-Hydroxy-2-methylpropiophenone 24650-42-8, Benzil dimethyl ketal
RL: USES (Uses)
(sensitizer, for UV-curable acrylic polymers with long **pot** life)

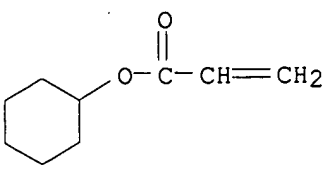
IT **111885-83-7**
RL: USES (Uses)
(photocuring of, sensitizers for, for long **pot** life)

RN 111885-83-7 HCA

CN 2-Propenoic acid, polymer with (chloromethyl)oxirane, cyclohexyl 2-propenoate and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

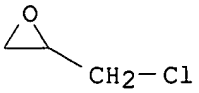
CM 1

CRN 3066-71-5
CMF C9 H14 O2



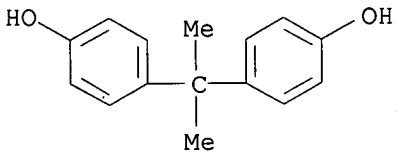
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



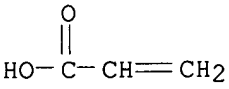
CM 3

CRN 80-05-7
CMF C15 H16 O2

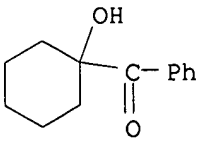


CM 4

CRN 79-10-7
CMF C3 H4 O2



IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone
RL: USES (Uses)
(sensitizer, for UV-curable acrylic polymers with long **pot** life)
RN 947-19-3 HCA
CN Methanone, (1-hydroxycyclohexyl)phenyl- (9CI) (CA INDEX NAME)



L85 ANSWER 6 OF 6 HCA COPYRIGHT 2003 ACS on STN
106:224462 Image formation. Tachikawa, Hiromichi; Kondo, Shunichi; Murata, Masataka; Sato, Hideo (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61279862 A2 19861210 Showa, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-123163 19850606.
AB Rolls of light-transmitting **photosensitive** recording materials for image formation in >2 times by exposure to light and development are coated with surface protective layers contg. curable compds. and fine granules. Images are formed on these materials at any position any time.

Thus, a coating for electrophotog. films contained Coronate L, Ti oxide (P25), and Dianal BR-83.

IC ICM G03G005-14
ICS G03G013-00

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Crosslinking** agents
(isocyanates, for protective coatings on electrophotog. films)

IT Silica **gel**, uses and miscellaneous
RL: USES (Uses)
(protective coatings, contg. titanium oxide, on electrophotog. films)

IT 26471-62-5, Tolylene diisocyanate
RL: USES (Uses)
(coatings, contg. poly(vinyl butyral) and silica, protective, on **photosensitive** films)

IT 26948-92-5, Desmodur AP Stable 39278-79-0, Coronate L
RL: MOA (Modifier or additive use); USES (Uses)
(**crosslinking** agents, for protective coatings on electrophotog. films)

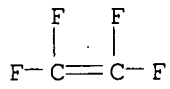
IT 1344-28-1, Aluminum oxide, uses and miscellaneous **9002-84-0**
9011-14-7, PMMA 60842-32-2, Aerosil R972 **68003-11-2**
108416-06-4, Diethylenetriamine-Epikote 100L copolymer
RL: USES (Uses)
(protective coatings, contg. titanium oxide, on electrophotog. films)

IT **9002-84-0 68003-11-2**
RL: USES (Uses)
(protective coatings, contg. titanium oxide, on electrophotog. films)

RN 9002-84-0 HCA
CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

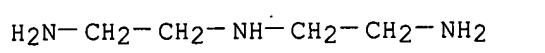
CRN 116-14-3
CMF C2 F4



RN 68003-11-2 HCA
CN 9,12-Octadecadienoic acid (9Z,12Z)-, dimer, polymer with N-(2-aminoethyl)-1,2-ethanediamine, (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

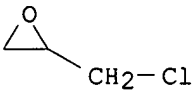
CM 1

CRN 111-40-0
CMF C4 H13 N3



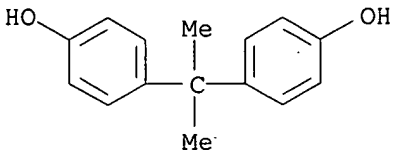
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



CM 3

CRN 80-05-7
CMF C15 H16 O2



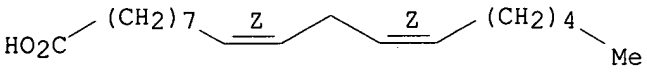
CM 4

CRN 6144-28-1
CMF (C18 H32 O2)2
CCI PMS

CM 5

CRN 60-33-3
CMF C18 H32 O2

Double bond geometry as shown.



=> d L87 1-11 ti

L87 ANSWER 1 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI **Photosensitive** resin composition and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same

L87 ANSWER 2 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Photoreactive and photocurable compositions containing hydrolyzable silicone compounds

L87 ANSWER 3 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI **Photosensitive** resin composition, solder resist comprising the same, cover lay **film**, and printed circuit board

L87 ANSWER 4 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI **Photosensitive** composition, cured article thereof, and printed circuit board using the same

L87 ANSWER 5 OF 12 HCA COPYRIGHT 2003 ACS on STN

TI Radiation-curable resin compositions for hologram **layer** and hologram recording medium

L87 ANSWER 6 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Alkaline developable **photosensitive** composition and manufacture of cured **coating film** using it

L87 ANSWER 7 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Protecting and **coating** material for light stabilization of ink-jet printed image

L87 ANSWER 8 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI **Photosensitive** resin compositions with **coatability** for solder resists

L87 ANSWER 9 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI **Photosensitive** epoxy resin compositions for solder resist inks

L87 ANSWER 10 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Alkali-developable, **photosensitive** solder resist composition

L87 ANSWER 11 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI UV-curable polymer compositions

=> d L87 1-12 cbib abs hitind hitstr

L87 ANSWER 1 OF 12 HCA COPYRIGHT 2003 ACS on STN
138:31018 **Photosensitive** resin composition and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same. Okada, Koji; Takagahara, Kaoru (Kaneka Corporation, Japan). PCT Int. Appl. WO 2002097532 A1 20021205, 129 pp. DESIGNATED STATES: W: CN, JP, KR, US. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2002-JP5249 20020529. PRIORITY: JP 2001-163469 20010530; JP 2001-165933 20010531; JP 2001-190269 20010622; JP 2001-214456 20010713; JP 2001-282645 20010918.

AB The invention relates to a **photosensitive** resin compn. comprising a sol. polyimide, a compd. having a carbon-carbon double bond and a photoreaction initiator and/or **photosensitizer** as main components; a **photosensitive** dry **film** resist using the compn.; and a **photosensitive** dry **film** resist exhibiting excellent flame retardance. The resin compn. affords a **photosensitive** dry **film** resist and a **photosensitive** cover ray **film** which exhibits good workability, can be developed with an alk. soln., and satisfy the flame retardancy std. UL94V-0. Further, the **film** can be directly **laminated** without the use of an adhesive and is excellent in heat resistance, and thus can be suitably used as a **photosensitive** cover ray **film** for a printed board for use in electronic materials, a suspension for a hard disk, and the head portion of a hard disk in a personal computer.

IC ICM G03F007-037
ICS G03F007-004; C08F002-50; C08G073-10; C08F020-20; C08F283-04; C08F290-14; C08F299-02

CC **74-5** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

ST **photosensitive** resin compn dry **film** resist cover ray

IT Polysiloxanes, preparation
RL: SPN (Synthetic preparation); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)
(amino-terminated, reaction product with silane, diamine and anhydride; **photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

IT Magnetic disks
(hard; **photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

IT **Light-sensitive** materials
Photoresists
Printed circuits
(**photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

IT Polyamic acids
Polyimides, preparation
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

IT 4491-03-6, Bisphenol A diacrylate
RL: CAT (Catalyst use); USES (Uses)
(ABE-30; **photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

IT **162881-26-7**, Bis(2,4,6-Trimethylbenzoyl)phenylphosphine oxide
RL: CAT (Catalyst use); USES (Uses)
(Irgacure 819, photopolymn. initiator; **photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

IT 77473-08-6 105809-30-1, Aronix M 208
RL: CAT (Catalyst use); USES (Uses)
(**photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

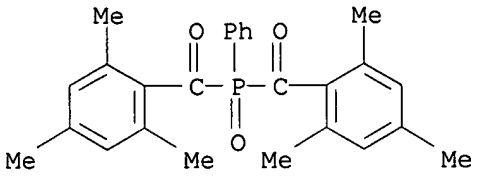
IT 90-93-7P, 4,4'-Bis(diethylamino)benzophenone 90-94-8P, S 112
106-91-2DP, Glycidyl methacrylate, reaction product with polyimide
945-30-2DP, 2,5-Diaminoterephthalic acid, reaction product with silane, diamine and anhydride 2770-50-5DP, reaction product with silane, diamine and anhydride 7330-46-3DP, Bis(4-amino-3-carboxyphenyl)methane, reaction product with silane, diamine and anhydride 30203-11-3DP, Bis[4-(3-aminophenoxy)phenyl] sulfone, reaction product with silane, diamine and anhydride 64401-02-1P, NK Ester A-BPE 30 205765-46-4DP, BAPS-M, reaction product with diamine and anhydride
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

IT 101-77-9, 4,4'-Diaminodiphenylmethane 115-86-6, Triphenylphosphate
1314-60-9, Antimony pentaoxide 19186-97-1, CR 900 **25068-38-6**, Epikote 828 25155-23-1, Trixylenyl phosphate 67006-39-7, Newfrontier BR 42M 124365-15-7, Sun Epoch NA 4800
RL: TEM (Technical or engineered material use); USES (Uses)
(**photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

IT **162881-26-7**, Bis(2,4,6-Trimethylbenzoyl)phenylphosphine oxide

RL: CAT (Catalyst use); USES (Uses)
(Irgacure 819, photopolymn. initiator; **photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

RN 162881-26-7 HCA
CN Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- (9CI) (CA INDEX NAME)

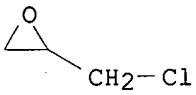


IT **25068-38-6**, Epikote 828
RL: TEM (Technical or engineered material use); USES (Uses)
(**photosensitive** resin compn. and **photosensitive** dry **film** resist and **photosensitive** cover ray **film** using the same)

RN 25068-38-6 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

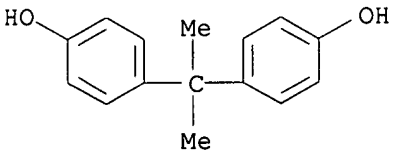
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



L87 ANSWER 2 OF 12 HCA COPYRIGHT 2003 ACS on STN
137:326098 Photoreactive and photocurable compositions containing hydrolyzable silicone compounds. Takahashi, Katsunori; Fukui, Hiroji; Kawabata, Kazuhiro; Kuroda, Takeo; Ichitani, Motokuni; Nakatani, Yasuhiro (Sekisui Chemical Co., Ltd., Japan). PCT Int. Appl. WO 2002083764 A1 20021024, 104 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT,

LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2002-JP3520 20020409. PRIORITY: JP 2001-110138 20010409; JP 2001-347708 20011113; JP 2001-357853 20011122; JP 2002-62421 20020307.

AB The compns. are useful for pattern formation, elec. conductive materials, elec. insulating materials, antireflective membranes, photoresists, color filters, adhesives, **coatings**, seals, gas barriers, etc., and contain a hydrolyzable metal compd. (A), e.g., alkylalkoxysilane derivs., and a compd. (B) capable of accelerating hydrolytic polycondensation and crosslinking of A in the presence of oxygen and under light irradn. Thus, mixing 100 parts Kaneka MS-S 303 (methyldimethoxysilyl-terminated polypropylene glycol) with 0.5 parts maleic anhydride, and mild-heating gave a title compn., which was exposed under high pressure Hg lamp to give a test sample.

IC ICM C08G077-00
ICS C08G079-00; C08L087-00; C08L101-10; C09D187-00; C09D201-10; C09J187-00; C09J201-10; C08J005-18; C09K003-10; G02B001-10; G02B003-00; G02B005-20; G02B006-13; G03F007-075; H01B001-12; H01B003-46; H01L051-00; H05B033-12; H05B033-14

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 42, **74**, 76

IT **Coating** materials
(**light-sensitive**; photoreactive and photocurable compns. contg. hydrolyzable silane compds.)

IT Adhesives
Coating materials
Sealing compositions
(photocurable; photoreactive and photocurable compns. contg. hydrolyzable silane compds.)

IT Antireflective **films**
Conducting polymers
Electric insulators
Light-sensitive materials
Optical filters
Photoresists
(photoreactive and photocurable compns. contg. hydrolyzable silane compds.)

IT 9003-49-0P, Butyl acrylate homopolymer 27458-65-7P, Cyclohexyl acrylate homopolymer 57758-91-5P, Trimethylolpropane trivinyl ether homopolymer 287925-98-8P, Aronix M 110 homopolymer 473563-22-3P 473563-24-5P **473563-25-6P** 473563-26-7P 473563-29-0P 473563-30-3P 473563-31-4P 473714-61-3P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoreactive and photocurable compns. contg. hydrolyzable silane compds.)

IT 108-31-6, Maleic anhydride, uses 1631-25-0, N-Cyclohexylmaleimide **162881-26-7**, Irgacure 819
RL: CAT (Catalyst use); USES (Uses)
(**photosensitizer**; photoreactive and photocurable compns. contg. hydrolyzable silane compds.)

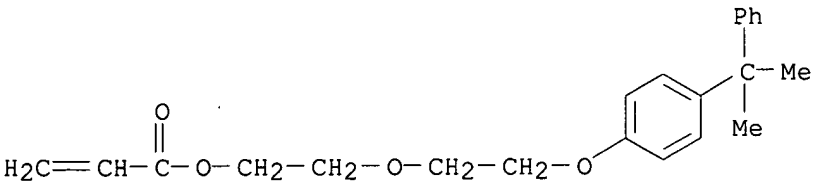
IT **473563-25-6P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoreactive and photocurable compns. contg. hydrolyzable silane compds.)

RN 473563-25-6 HCA
CN 2-Propenoic acid, 2-[2-[4-(1-methyl-1-phenylethyl)phenoxy]ethoxy]ethyl

ester, polymer with (chloromethyl)oxirane, .alpha.-(dimethoxymethylsilyl)-.omega.-[(dimethoxymethylsilyl)oxy]poly[oxy(methyl-1,2-ethanediyl)] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

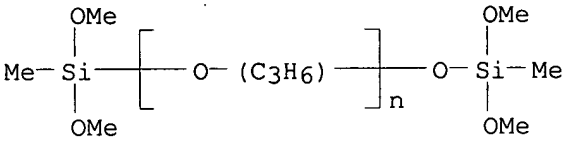
CM 1

CRN 192462-21-8
CMF C22 H26 O4



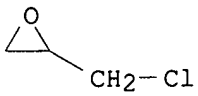
CM 2

CRN 77396-40-8
CMF (C3 H6 O)n C6 H18 O5 Si2
CCI IDS, PMS



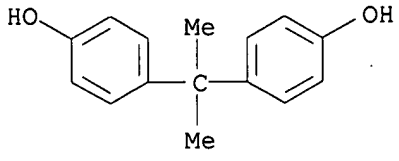
CM 3

CRN 106-89-8
CMF C3 H5 Cl O



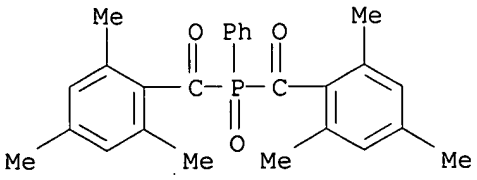
CM 4

CRN 80-05-7
CMF C15 H16 O2



IT **162881-26-7**, Irgacure 819
RL: CAT (Catalyst use); USES (Uses)
(**photosensitizer**; photoreactive and photocurable compns. contg. hydrolyzable silane compds.)

RN 162881-26-7 HCA
CN Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- (9CI) (CA INDEX NAME)



L87 ANSWER 3 OF 12 HCA COPYRIGHT 2003 ACS on STN
136:348306 **Photosensitive** resin composition, solder resist comprising the same, cover lay **film**, and printed circuit board. Okada, Koji; Takagahara, Kaoru (Kaneka Corporation, Japan). PCT Int. Appl. WO 2002032966 A1 20020425, 124 pp. DESIGNATED STATES: W: KR, US. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2001-JP9053 20011015. PRIORITY: JP 2000-315946 20001016; JP 2000-356492 20001122; JP 2000-360199 20001127; JP 2000-400072 20001228; JP 2001-78201 20010319; JP 2001-163470 20010530.

AB The invention relates to a **photosensitive** resin compn. excellent in heat resistance, processability and adhesion which is used for a solder resist, a cover lay **film** and a printed circuit board. The cover lay **film** has excellent processability and adhesion at relatively low temps. while retaining sufficient mech. strength, gives a cured **film** having a low modulus, and is suitable for use in producing printed boards or hard disks. The solder resist is sol., can be **laminated** at a temp. not higher than 150.degree., and can be applied directly to an FPC without through an adhesive. The cover lay **film** is excellent in various properties including heat resistance and causes little warpage when **laminated** to an FPC. The **photosensitive** resin compn. comprises: (a) a polyimide sol. in a solvent having a b.p..ltoreq.120.degree. and (b) a compd. having .gtoreq.1 arom. ring and .gtoreq.2 double bonds per mol., wherein the polyimide is obtained from an acid dianhydride having 1-6 arom. rings or alicyclic acid dianhydride and/or a diamine having 1-6 arom. rings. The solder resist, cover lay **film**, etc. are excellent in heat resistance and mech. properties and do not damage the substrates because they can be **laminated** at a relatively low temp.

IC ICM C08F002-44
ICS C08F002-50; C08F283-04; C08F290-06; C08J007-04; G03F007-037; H05K003-28

CC **74-5** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76

ST polyimide solder resist cover lay **film** printed circuit board; **photosensitive** resin compn polyimide

IT Polysiloxanes, reactions
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(amino-terminated, KF 8010, polymers with bis[4-(3-aminophenoxy)phenyl]sulfone and diaminobenzoic acid; **photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)

IT **Films**
Printed circuit boards
Solder resists
(**photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)

IT Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)
IT Polysulfones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester-polyether-polyimide-; **photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)
IT Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester-polyether-polysulfone-; **photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)
IT Polyethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester-polyimide-polysulfone-; **photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)
IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyether-polyimide-polysulfone-; **photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)
IT **25068-38-6DP**, Epoxy 828, reaction product with glycidyl methacrylate and bis[4-(3-aminophenoxy)phenyl]sulfone-2,2-bis(4-hydroxyphenyl)propanedibenzoate-3,3',4,4'-tetracarboxylic dianhydride-diaminobenzoate copolymer
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(Epoxy 828; **photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)
IT 27576-04-1DP, Diaminobenzoic acid, polymer with Bis[4-(3-aminophenoxy)phenyl]sulfone and amino-terminated siloxanes 30203-11-3DP, Bis[4-(3-aminophenoxy)phenyl]sulfone, polymer with diaminobenzoic acid and amino-terminated siloxanes 263906-49-6P 263906-50-9P 372111-14-3P, Bis[4-(3-aminophenoxy)phenyl]sulfone-2,2-bis(4-hydroxyphenyl)propanedibenzoate-3,3',4,4'-tetracarboxylic dianhydride-diaminobenzoic acid copolymer 415918-08-0P, Aronix M 208-4,4'-diaminodiphenyl sulfone copolymer
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)
IT 106-91-2DP, Glycidyl methacrylate, reaction product with Epoxy 828 and bis[4-(3-aminophenoxy)phenyl]sulfone-2,2-bis(4-hydroxyphenyl)propanedibenzoate-3,3',4,4'-tetracarboxylic dianhydride-diaminobenzoate copolymer 945-30-2DP, 2,5-Diaminoterephthalic acid, polymer with diaminosiloxane-modified polyimide 7330-46-3DP, Bis(4-amino-3-carboxyphenyl)methane, polymer with diaminosiloxane-modified polyimide 17831-71-9DP, Aronix M 240, polymer with diaminosiloxane-modified polyimide 27576-04-1DP, Diaminobenzoic acid, polymer with diaminosiloxane-modified polyimide 30203-11-3DP, Bis[4-(3-aminophenoxy)phenyl]sulfone, polymer with diaminosiloxane-modified polyimide 64401-02-1DP, NK Ester A-BPE 30, polymer with diaminosiloxane-modified polyimide 66991-36-4DP, polymer with diaminosiloxane-modified polyimide 77473-08-6DP, BTTB 25, polymer with diaminosiloxane-modified polyimide 83558-87-6DP, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane, polymer with diaminosiloxane-modified polyimide 100844-80-2P 105809-30-1DP, polymer with epoxy-modified polyimide methacrylate **162881-26-7DP**, Bis(2,4,6-

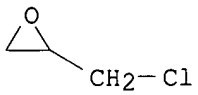
trimethylbenzoyl)-phenylphosphine oxide, polymer with diaminosiloxane-modified polyimide
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)

IT **25068-38-6DP**, Epoxy 828, reaction product with glycidyl methacrylate and bis[4-(3-aminophenoxy)phenyl]sulfone-2,2-bis(4-hydroxyphenyl)propanedibenzoate-3,3',4,4'-tetracarboxylic dianhydride-diaminobenzoate copolymer
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(Epoxy 828; **photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)

RN 25068-38-6 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

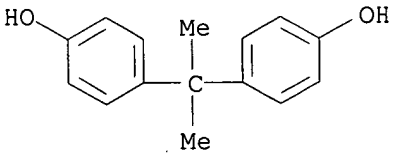
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



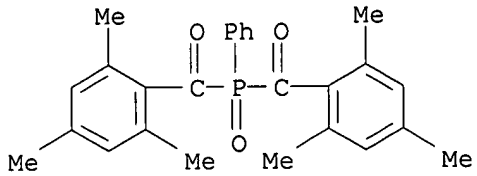
CM 2

CRN 80-05-7
CMF C15 H16 O2



IT **162881-26-7DP**, Bis(2,4,6-trimethylbenzoyl)-phenylphosphine oxide, polymer with diaminosiloxane-modified polyimide
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photosensitive** resin compn. contg. sol. polyimide for solder resist and printed circuit board)

RN 162881-26-7 HCA
CN Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- (9CI) (CA INDEX NAME)



L87 ANSWER 4 OF 12 HCA COPYRIGHT 2003 ACS on STN

136:270562 **Photosensitive** composition, cured article thereof, and printed circuit board using the same. Tamura, Kenji; Hirata, Motoyuki; Kanemaru, Yoshikazu (Showa Denko K.K., Japan). PCT Int. Appl. WO 2002023273 A2 20020321, 62 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-JP7826 20010910. PRIORITY: JP 2000-275704 20000911; US 2000-PV238046 20001006; JP 2000-367131 20001201; US 2000-PV256916 20001221; JP 2001-88113 20010326; JP 2001-268392 20010905.

AB The **photosensitive** compn. of the present invention comprises a photocurable component contg.: a urethane (meth)acrylate compd. (A) having a carboxyl group, a thermosetting resin (C); a photopolymn. initiator (D); and a thermopolymn. catalyst (E); and the above-mentioned photocurable component further contains at least one of (B) a compd. having an ethylenically unsatd. group, excluding the component (A), and an epoxy (meth)acrylate compd. (F) having a carboxyl group. Therefore, the **photosensitive** compn. is suitable for use as an insulating protective **coating film** for printed circuit boards. Since the cured **film** made of the **photosensitive** compn. of the present invention is particularly superior in pliability, curling does not occur even when used for a thin circuit board. Therefore, the cured **film** is best suited for use in an FPC board.

IC ICM G03F007-004

CC **74-4** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76

ST printed circuit board photocurable protective **coating film**

IT Phenolic resins, reactions
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(epoxy, novolak, cresolic and phenolic; prepn. of **photosensitive** compn. and cured article for printed circuit board)

IT Phenolic resins, properties
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(glycidyl ethers; prepn. of **photosensitive** compn. and cured article for printed circuit board)

IT Epoxy resins, reactions
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(phenolic, novolak, cresolic and phenolic; prepn. of **photosensitive** compn. and cured article for printed circuit board)

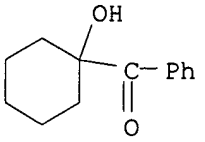
IT **Coating** materials
(photocurable; **photosensitive** compn. and cured article for printed circuit board)

IT Polymerization
(photopolymn.; **photosensitive** compn. and cured article for printed circuit board)

IT **Coating** materials
Printed circuit boards
(**photosensitive** compn. and cured article for printed circuit board)

IT Polyurethanes, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polyester-, block, acrylate-terminated; **photosensitive** compn. and cured article for printed circuit board)
IT Polyesters, reactions
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT 108-78-1, Melamine, uses
RL: CAT (Catalyst use); USES (Uses)
(PC 1, thermopolymn. catalyst; prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT 208945-54-4, YL 6121H
RL: POF (Polymer in formulation); USES (Uses)
(YL 6121H, thermosetting resin; prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT 90-93-7, EAB-F
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. initiator, EAB-F; prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT **947-19-3**, Irgacure 184
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. initiator, Irgacure 184; prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT 189146-15-4, Lucirin TPO
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. initiator, Lucirin TPO; prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT 143549-97-7, EB 1290K 153192-13-3, UF8001
RL: POF (Polymer in formulation); USES (Uses)
(prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT 79-10-7DP, Acrylic acid, reaction product with Cresol-formaldehyde copolymer 85-42-7DP, Hexahydrophthalic acid anhydride, reaction product with phenol-formaldehyde copolymer 85-43-8DP, Tetrahydrophthalic acid anhydride, reaction product with Cresol-formaldehyde copolymer 818-61-1DP, 2-Hydroxyethyl acrylate, reaction product with dimethylolpropionic acid-isophorone diisocyanate-Placcel212 block copolymer 9003-35-4DP, Phenol-formaldehyde copolymer, glycidyl ethers 9016-83-5DP, Cresol-formaldehyde copolymer, glycidyl ethers 25248-42-4DP, Polycaprolactone, SRU, diol derivs, block polymer dimethylolpropionic acid and isophorone diisocyanate, reaction product with hydroxyethyl acrylate 82115-76-2DP, Dimethylolpropionic acid-isophorone diisocyanate-PTG 850SN block copolymer, reaction product with hydroxyethyl acrylate 256472-47-6DP, reaction product with hydroxyethyl acrylate 405081-97-2DP, Dimethylolpropionic acid-isophorone diisocyanate-Placcel 212 block copolymer, reaction product with hydroxyethyl acrylate 405081-98-3DP, reaction product with hydroxyethyl acrylate 405095-71-8DP, Dimethylolpropionic acid-isophorone diisocyanate-Placcel 208 block copolymer, reaction product with hydroxyethyl acrylate
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT 216316-56-2P 329358-40-9P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of **photosensitive** compn. and cured article for

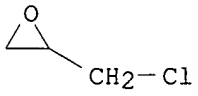
printed circuit board)
IT **25068-38-6**, Epiclon 860 95916-94-2, Epiclon N 660
RL: POF (Polymer in formulation); USES (Uses)
(thermosetting resin; prepn. of **photosensitive** compn. and cured article for printed circuit board)
IT **947-19-3**, Irgacure 184
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. initiator, Irgacure 184; prepn. of **photosensitive** compn. and cured article for printed circuit board)
RN 947-19-3 HCA
CN Methanone, (1-hydroxycyclohexyl)phenyl- (9CI) (CA INDEX NAME)



IT **25068-38-6**, Epiclon 860
RL: POF (Polymer in formulation); USES (Uses)
(thermosetting resin; prepn. of **photosensitive** compn. and cured article for printed circuit board)
RN 25068-38-6 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

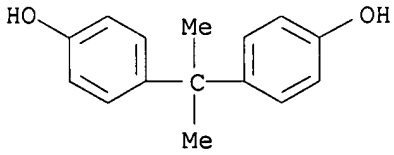
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



L87 ANSWER 5 OF 12 HCA COPYRIGHT 2003 ACS on STN
134:170876 Radiation-curable resin compositions for hologram **layer** and hologram recording medium. Maekawa, Susumu; Iimure, Tamio (Nippon Paint Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001040275 A2 20010213, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-212966 19990728.
AB The title compns. with good adhesion to substrate and resistance to org. solvent and hot water comprise: (A) a OH-contg. resin, (B) a polyisocyanate and (C) a (meth)acryloyl-contg. (meth)acrylate compd. with

more than two functional groups and are **coated** on a substrate **film** to give a hologram recording medium. Thus, polymg. di-Me terephthalate 4515, di-Me isophthalate 4515, ethylene glycol 1792, neopentyl glycol 753 and trimethylolpropane 1204 parts gave an A, 3153 parts of a 60% Et acetate soln. of which was combined with IPDI 444, Aronix M 305 (a C component) 1035 and dibutyltin dilaurate 4.1 in Et acetate total 956 parts, then further mixed with Aronix M 305 724, and Irgacure 184 (a sensitizer) 164 in Et acetate 1678 parts to give a title compn.

IC ICM C09D133-14
ICS C08F002-00; C08F002-46; C08F299-06; C08G018-67; C08J007-04; C09D175-14; G03H001-02

CC **74-8** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 42

ST hydroxyl contg polyester radiation curable resin hologram **film** manuf; polyisocyanate polyester urethane radiation curable hologram recording medium

IT Polyurethanes, properties
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy, acrylates; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT Polyurethanes, properties
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-, acrylic; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT Epoxy resins, properties
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyurethane-, acrylates; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT Holographic recording materials
(radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT **Coating** materials
(radiation-curable; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT Polyesters, miscellaneous
RL: MSC (Miscellaneous)
(substrate; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT **947-19-3**, Irgacure 184
RL: CAT (Catalyst use); USES (Uses)
(**photosensitizer**; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT 325481-24-1P, Aronix M 305-dimethyl isophthalate-dimethyl terephthalate-ethylene glycol-IPDI-neopentyl glycol-trimethylolpropane copolymer 325481-26-3P, Adipic acid-Aronix M 305-dimethyl isophthalate-dimethyl terephthalate-ethylene glycol-IPDI-neopentyl glycol-trimethylolpropane copolymer 325481-30-9P, Dimethyl isophthalate-dimethyl terephthalate-ethylene glycol;2-hydroxy-3-acryloxypropyl methacrylate;neopentyl glycol-trimethylolpropane-xylylene diisocyanate copolymer 325481-32-1P 325481-33-2P 325748-40-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)
(radiation-curable resin compns. for hologram **layer** and hologram recording medium)

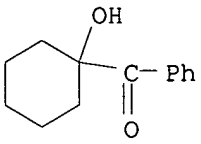
IT **325481-28-5**, Aronix M 305-bisphenol A-epichlorohydrin-IPDI copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT 25038-59-9, PET polyester, miscellaneous
RL: MSC (Miscellaneous)
(substrate; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT 77-58-7, Dibutyltin dilaurate
RL: CAT (Catalyst use); USES (Uses)
(urethane formation catalyst; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

IT **947-19-3**, Irgacure 184
RL: CAT (Catalyst use); USES (Uses)
(**photosensitizer**; radiation-curable resin compns. for hologram **layer** and hologram recording medium)

RN 947-19-3 HCA
CN Methanone, (1-hydroxycyclohexyl)phenyl- (9CI) (CA INDEX NAME)

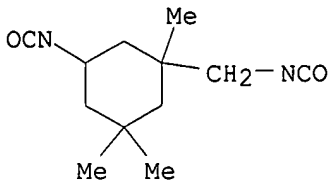


IT **325481-28-5**, Aronix M 305-bisphenol A-epichlorohydrin-IPDI copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(radiation-curable resin compns. for hologram **layer** and hologram recording medium)

RN 325481-28-5 HCA
CN 2-Propenoic acid, 2-(hydroxymethyl)-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with (chloromethyl)oxirane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

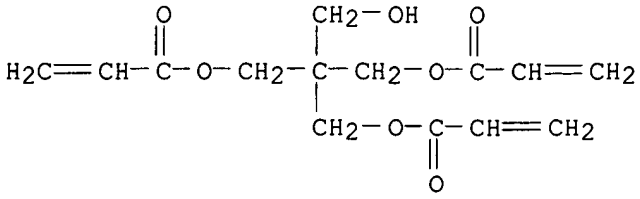
CM 1

CRN 4098-71-9
CMF C12 H18 N2 O2



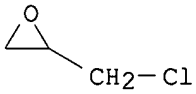
CM 2

CRN 3524-68-3
CMF C14 H18 O7



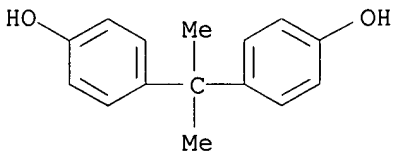
CM 3

CRN 106-89-8
CMF C3 H5 Cl O

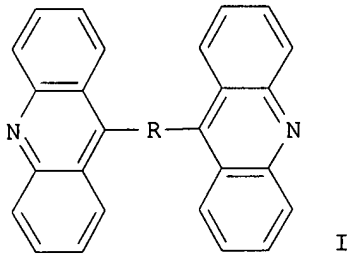


CM 4

CRN 80-05-7
CMF C15 H16 O2



L87 ANSWER 6 OF 12 HCA COPYRIGHT 2003 ACS on STN
132:214777 Alkaline developable **photosensitive** composition and manufacture of cured **coating film** using it. Arima, Masao; Kakinuma, Keiko (Taiyo Ink Seizo K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2000075482 A2 20000314, 11 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1998-259180 19980831.
GI



I

AB The compn. contains (A) an ethylenic unsatd. bond- and CO2H-contg. photopolymerizable compd. (liq. at room temp.), (B) an acridine compd. I (R = C2-20 alkylene, oxadialkylene, thiodialkylene), (C) a photoradical polymn. catalyst and an optional sensitizer, and (D) an optional compd. having .gtoreq.2 epoxy groups. The manuf. method involves (1) applying the compn. on a substrate, (2) exposing the compn. by energy beam radiation to obtain a tack-free **film**, (3) selectively irradiating energy beam to the tack-free **film**, and (4) developing using an alkali aq. soln. and removing an unexposed region to form a cured **film**. The **film** shows excellent heat, chem., and electrocorrosion resistance and adhesion.

IC ICM G03F007-029
ICS C08F002-48; G03F007-027; G03F007-038

CC **74-5** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST **photosensitive** compn alkali development **film** formation; energy beam radiation **photosensitive** cured **film**; photoresist alkali development **film** curing

IT Photoresists
(alkali developable **photosensitive** compn. contg. acridine deriv. for **film** formation)

IT 71868-10-5, Irgacure 907 125051-32-3, Irgacure 784 **162881-26-7**, Irgacure 819
RL: CAT (Catalyst use); USES (Uses)
(alkali developable **photosensitive** compn. contg. acridine deriv. for **film** formation)

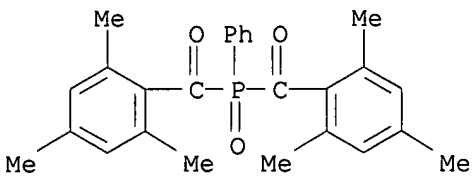
IT 141946-28-3
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(alkali developable **photosensitive** compn. contg. acridine deriv. for **film** formation)

IT 90-93-7, 4,4'-Bisdiethylaminobenzophenone 999-61-1, 2-Hydroxypropyl acrylate **25068-38-6**, Epikote 828 25550-51-0D, Methylhexahydrophthalic anhydride, hydroxypropyl acrylate adduct 37348-52-0, DEN 431 82799-44-8, 2,4-Diethylthioxanthone 89118-70-7, YX 4000
RL: TEM (Technical or engineered material use); USES (Uses)
(alkali developable **photosensitive** compn. contg. acridine deriv. for **film** formation)

IT **162881-26-7**, Irgacure 819
RL: CAT (Catalyst use); USES (Uses)
(alkali developable **photosensitive** compn. contg. acridine deriv. for **film** formation)

RN 162881-26-7 HCA

CN Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- (9CI) (CA INDEX NAME)



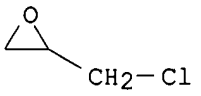
IT **25068-38-6**, Epikote 828
RL: TEM (Technical or engineered material use); USES (Uses)
(alkali developable **photosensitive** compn. contg. acridine deriv. for **film** formation)

RN 25068-38-6 HCA

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

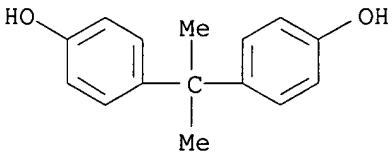
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



L87 ANSWER 7 OF 12 HCA COPYRIGHT 2003 ACS on STN
125:127842 Protecting and **coating** material for light stabilization of ink-jet printed image. Noguchi, Hiromichi; Abe, Tsutomu; Matsuo, Keisuke; Ookuma, Norio; Ikeda, Masami (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08118785 A2 19960514 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-263665 19941027.

AB The material which is **film**-forming at room temp. contains (A) an acrylate ester of a polyol and/or a polyepoxide, (B) a benzotriazole deriv. UV absorber enough for application at 0.5-3.0 g/m2, (C) a photopolymn. initiator with max. light absorption at 300-400 nm and free from an amine-based **photosensitizer**, and (D) a **film** -formable transparent resin binder with glass-transition temp. .gtoreq.50.degree.. Ink-jet printed material **coated** with the protecting material shows improved light resistance.

IC ICM B41M005-00
ICS B41M007-02; C08F002-50; C08F290-06; C09D004-00

ICA C08J007-04

CC **74-6** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 42

ST protecting **film** ink jet printing image; light resistance image jet printing **coating**

IT **Coating** materials
(protecting and **coating** material for light stabilization of ink-jet printed image)

IT Printing, nonimpact
(ink-jet, protecting and **coating** material for light stabilization of ink-jet printed image)

IT 84268-23-5, Tinuvin 384 104810-48-2, Tinuvin 1130
RL: TEM (Technical or engineered material use); USES (Uses)
(UV absorber; protecting and **coating** material for light stabilization of ink-jet printed image)

IT 25034-86-0, Dianal BR 80 70563-26-7, Dianal BR 83

RL: TEM (Technical or engineered material use); USES (Uses)
(binder; protecting and **coating** material for light stabilization of ink-jet printed image)

IT 122586-52-1, Tinuvin 123
RL: TEM (Technical or engineered material use); USES (Uses)
(light stabilizer; protecting and **coating** material for light stabilization of ink-jet printed image)

IT 15625-89-5, Aronix M 309 **53814-24-7**, Ripoxy VR 60 76723-57-4, Aronix M 7100 77641-99-7, Kayarad DPHA 93365-36-7, Kayarad DPCA 30 100289-84-7, Aronix M 310
RL: TEM (Technical or engineered material use); USES (Uses)
(photopolymerizable resin; protecting and **coating** material for light stabilization of ink-jet printed image)

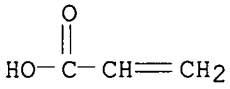
IT **947-19-3**, Irgacure 184 7473-98-5, Darocur 1173 **106797-53-9**
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. initiator; protecting and **coating** material for light stabilization of ink-jet printed image)

IT **53814-24-7**, Ripoxy VR 60
RL: TEM (Technical or engineered material use); USES (Uses)
(photopolymerizable resin; protecting and **coating** material for light stabilization of ink-jet printed image)

RN 53814-24-7 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2

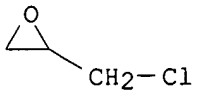


CM 2

CRN 25068-38-6
CMF (C15 H16 O2 . C3 H5 Cl O)x
CCI PMS

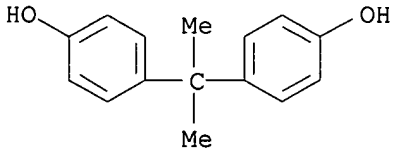
CM 3

CRN 106-89-8
CMF C3 H5 Cl O

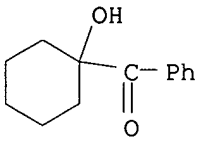


CM 4

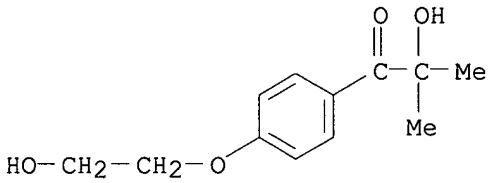
CRN 80-05-7
CMF C15 H16 O2



IT **947-19-3**, Irgacure 184 **106797-53-9**
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. initiator; protecting and **coating** material for light stabilization of ink-jet printed image)
RN 947-19-3 HCA
CN Methanone, (1-hydroxycyclohexyl)phenyl- (9CI) (CA INDEX NAME)



RN 106797-53-9 HCA
CN 1-Propanone, 2-hydroxy-1-[4-(2-hydroxyethoxy)phenyl]-2-methyl- (9CI) (CA INDEX NAME)



L87 ANSWER 8 OF 12 HCA COPYRIGHT 2003 ACS on STN
113:221379 **Photosensitive** resin compositions with **coatability** for solder resists. Watabe, Makio; Tanaka, Isamu; Kikuchi, Hiroshi; Oka, Hitoshi (Hitachi, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02135350 A2 19900524 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-287646 19881116.

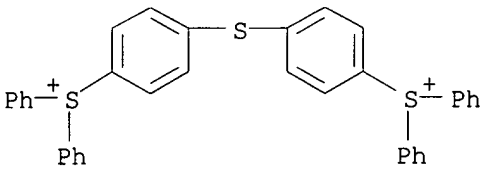
AB The title compn. contains an unsatd. compd. prepolymer, a polyfunctionalized unsatd. monomer, a photoradical polymn. initiator, an epoxy resin, and a photocation polymn. initiator. The compn. is useful for a solder resist in the manuf. of printed circuits. Thus, Daiso Dap, trimethylolpropane trimethacrylate, 2-methyl-1-[4'-(methylthio)phenyl]-2-morpholinopropanone-1, Epikote 152, bis[4-(diphenylsulfonio)phenyl]sulfide bishexafluorophosphate, Bu Cellosolve acetate, phthalocyanine green, and a silicone oil were mixed to give the title compn. A printed circuit board was **coated** with the compn., neg. patternwise UV-irradiated, developed by 1,1,1-trichloroethane, UV-exposed, and treated with a solder bath to show peeling resistance.

IC ICM G03F007-027
ICS C08F002-46; C08G059-18; G03F007-027; G03F007-032
CC **74-5** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
ST solder resist allyl phthalate polymer; acrylic polyallyl phthalate epoxy resin; **coatability** solder resist printed circuit; photoradical

polymn initiator solder resist; photocation polymn initiator solder resist
IT Resists
(solder, contg. unsatd. prepolymer and polyfunctionalized monomer and epoxy resin and photoradical polymn. initiator and photocation polymn. initiator, with improved **coatability**)
IT 6652-28-4, Benzoin isopropyl ether 71868-10-5 74227-35-3
89452-37-9
RL: USES (Uses)
(polymn. initiator, for solder resist, for printed circuit fabrication)
IT 2358-84-1, Diethylene glycol dimethacrylate 3290-92-4, Trimethylolpropane trimethacrylate 3524-68-3, Pentaerythritol triacrylate 13048-33-4, 1,6-Hexanediol diacrylate 15625-89-5, Trimethylolpropane triacrylate 25053-15-0, Daiso Dap-L **25068-38-6**, Epikote 828 29570-58-9, Dipentaerythritol hexaacrylate 84778-06-3, Epikote 152
RL: USES (Uses)
(solder resist from, with **coatability**, for printed circuit fabrication)
IT **89452-37-9**
RL: USES (Uses)
(polymn. initiator, for solder resist, for printed circuit fabrication)
RN 89452-37-9 HCA
CN Sulfonium, (thiodi-4,1-phenylene)bis[diphenyl-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

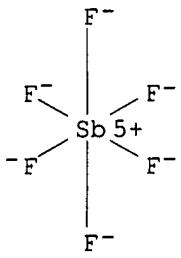
CM 1

CRN 74227-34-2
CMF C36 H28 S3



CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS

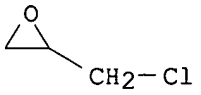


IT **25068-38-6**, Epikote 828
RL: USES (Uses)
(solder resist from, with **coatability**, for printed circuit fabrication)

RN 25068-38-6 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

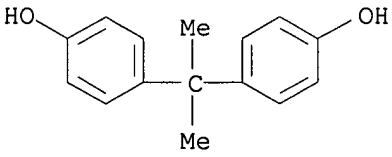
CM 1

CRN 106-89-8
CMF C3 H5 Cl O

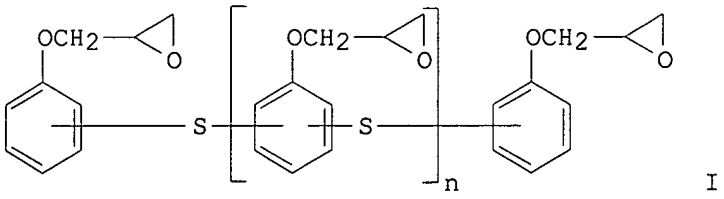


CM 2

CRN 80-05-7
CMF C15 H16 O2



L87 ANSWER 9 OF 12 HCA COPYRIGHT 2003 ACS on STN
111:67961 **Photosensitive** epoxy resin compositions for solder resist inks. Uemoto, Yasuo; Ono, Kazuyoshi; Makino, Shigeo; Kayama, Takashi (Mitsui Toatsu Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 01038413 A2 19890208 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-193666 19870804.
GI



I

AB Alkali-developable title compns. with excellent heat and chem. resistance and elec. insulating properties, useful in printed circuit boards, comprise (a) half esters prepd. by treating reaction products of a thiobisphenol epoxy resin (I) and unsatd. monobasic acids with anhydrides, (b) mono- or polyepoxides, (c) photopolymerizable unsatd. compds., and (d) photopolymn. initiators. Thus, the reaction product (60% solids) of I (epoxy equiv 200) and acrylic acid was treated with Rikacid MH 700 (4-methylhexahydrophthalic anhydride) in cellosolve acetate in the presence of hydroquinone at 105.degree. for 8 h to give a half ester (II). Then, a printed circuit board was **coated** with a compn. contg. II, ECN 299 (cresol novolak epoxy resin), pentaerythritol triacrylate (III), benzophenone, Michler's ketone, benzotriazole, phthalocyanine green, and cellosolve acetate, dried 20 min at 70.degree., UV irradiated

through a mask, developed by aq. Na2CO3, and cured 50 min at 140.degree. to form high-precision patterns, which showed a pencil hardness of 5H, an insulating resistance .gtoreq.1010 .OMEGA. after 1000 h at 60.degree. and 95% relative humidity, and no change after 12 h in org. solvents, 12 h in acid or alkali, and 30 s in solder at 270.degree., vs., 3H, 109, partial blisters, blisters, and blisters, resp., for a III-free control.

IC ICM C08F299-00
ICS G03C001-68; G03C001-71

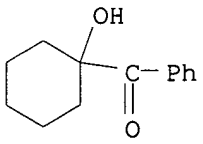
CC **74-5** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 42, 76

IT 90-94-8, Michler's ketone 119-61-9, Benzophenone, uses and miscellaneous **947-19-3** 10287-53-3, Ethyl p-dimethylaminobenzoate 71868-10-5, Irgacure 907 77181-47-6 82799-44-8, 2,4-Diethylthioxanthone
RL: USES (Uses)
(photopolymn. initiators, solder resist inks contg., for printed circuits)

IT 3524-68-3, Pentaerythritol triacrylate 15625-89-5, Trimethylolpropane triacrylate **25068-38-6** 29570-58-9 32435-46-4, Kayamer PM 2 119977-50-3, AER-ECN 299 121937-86-8D, Poly[thio[(oxiranylmethoxy)phenylene]], esters
RL: USES (Uses)
(solder resist inks contg., with good heat and chem. resistance and elec. insulating properties, for printed circuits)

IT **947-19-3**
RL: USES (Uses)
(photopolymn. initiators, solder resist inks contg., for printed circuits)

RN 947-19-3 HCA
CN Methanone, (1-hydroxycyclohexyl)phenyl- (9CI) (CA INDEX NAME)

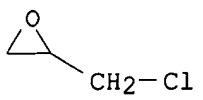


IT **25068-38-6**
RL: USES (Uses)
(solder resist inks contg., with good heat and chem. resistance and elec. insulating properties, for printed circuits)

RN 25068-38-6 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

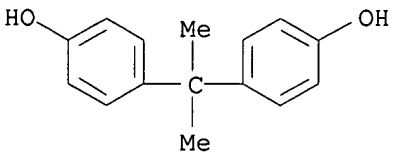
CRN 106-89-8
CMF C3 H5 Cl O



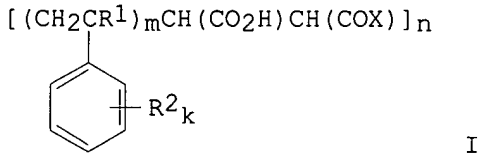
CM 2

CRN 80-05-7

CMF C15 H16 O2



L87 ANSWER 10 OF 12 HCA COPYRIGHT 2003 ACS on STN
109:101900 Alkali-developable, **photosensitive** solder resist composition. Makino, Shigeo; Uemoto, Yasuo; Ono, Kazuyoshi; Kayama, Takashi (Mitsui Toatsu Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 63011930 A2 19880119 Showa, 7 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-155030 19860703.
GI



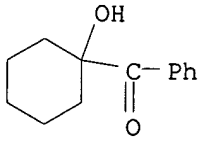
I

AB Alkali-developable, **photosensitive** solder resist compn. contains (a) half ester of maleic anhydride-styrene copolymer (mol. wt. = 500-50,000) with a monomer contg. OH group(s) and (meth)acryloyl group(s) I [R1 = H, Me; R2 = H, Me, Et, Pr, halo; k = 1-5; X = CH2:CR3CO(CpH2pO)q; R3 = H, Me; p = 2-5; q = 1-30; m = 0.1-10; n = 2-200], (b) compds. contg. epoxy group(s), (c) photopolymg. unsatd. compds., and (d) photopolymn. initiator. Heat treatment of the resist after patternwise exposure and development with aq. alkali provides resist **layer** highly resistant to chem. and heat, and highly insulating. The **layer** can be also used as resist **layer** for etching or plating, without heat treatment. Thus, 200 g SMA1000 (maleic anhydride-styrene copolymer) was esterified with 130 g 2-hydroxyethyl methacrylate, to obtain a half ester. A compn. contg. the half ester 78, Epikote 828 30, trimethylolpropane triacrylate 10, Ph2CO 5, Michler's ketone 2, Kayamer PM2 3, Phthalocyanine Green 2 parts, and Bu cellosolve acetate was applied on printed circuit board and dried to obtain a 27-.mu. **layer**. Exposure to UV and development with Na2CO3 soln. gave highly resolved pattern. Heating at 150.degree. gave pattern with 5H pencil hardness and high adhesivity. High resistance to solvents, acids, alkalis, and solder bath was shown.
IC ICM G03C001-68
ICS C08F008-14; C08F020-10; C08F299-00; G03F007-10
ICA C08F222-06
CC **74-5** (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST **photosensitive** solder resist alkali developable
IT 90-94-8, Michler's ketone 95-14-7, Benzotriazole 119-61-9, Benzophenone, uses and miscellaneous **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone 1328-53-6, Phthalocyanine Green 2451-62-9, Triglycidyl isocyanurate 3524-68-3, Pentaerythritol triacrylate 15625-89-5, Trimethylolpropane triacrylate 24650-42-8, 2,2-Dimethoxy-2-phenylacetophenone **25068-38-6**, Epikote 1007

29570-58-9, Dipentaerythritol hexaacrylate 32435-46-4, Kayamer PM2
37808-19-8, tert-Butylanthraquinone 67527-24-6 71868-10-5, Irgacure
907 106556-00-7, Aronix M325
RL: USES (Uses)
(**photosensitive** solder resist contg.)

IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone **25068-38-6**,
Epikote 1007
RL: USES (Uses)
(**photosensitive** solder resist contg.)

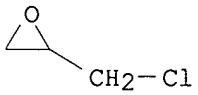
RN 947-19-3 HCA
CN Methanone, (1-hydroxycyclohexyl)phenyl- (9CI) (CA INDEX NAME)



RN 25068-38-6 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

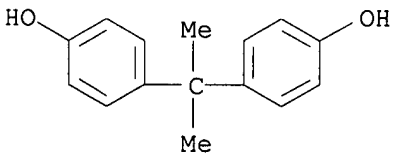
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



L87 ANSWER 11 OF 12 HCA COPYRIGHT 2003 ACS on STN
108:7026 UV-curable polymer compositions. Okamoto, Shunei; Kitajima, Mitsuhiro (Nitto Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62104817 A2 19870515 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-245922 19851031.

AB The title compns., with long pot life and curable in thicknesses >1 mm without heat and useful for **coatings**, IC sockets, etc. (no data), contain curable acrylic polymers 80-99.8, 2-hydroxy-2-methyl-propiophenone (I) 0.1-10, and benzil di-Me ketal (II) or 1-hydroxycyclohexyl Ph ketone (III) 0.1-10%. A mixt. of trimethylolpropane triacrylate 50, cyclohexyl acrylate 30, 1,6-hexanediol diacrylate 20, I 5, and III 3 parts (pot life at 60.degree. .gtoreq.3 mo) was cured with a Hg lamp to a **sheet** with cure depth 1.8 mm and

pencil hardness 3H; vs. 1.3 and 2B, resp., with II instead of I and III.

IC ICM C08F020-10
ICS C08F002-50; C08F299-02; G03C001-00; G03C001-68

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): **74**

IT 111885-82-6, Cyclohexyl acrylate-1,6-hexanediol diacrylate-trimethylolpropane triacrylate copolymer **111885-83-7**
111928-87-1
RL: USES (Uses)
(photocuring of, sensitizers for, for long pot life)

IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone 7473-98-5, 2-Hydroxy-2-methylpropiophenone 24650-42-8, Benzil dimethyl ketal
RL: USES (Uses)
(**sensitizer**, for **UV**-curable acrylic polymers with long pot life)

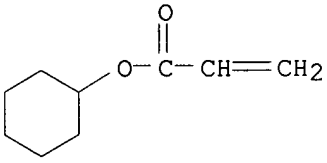
IT **111885-83-7**
RL: USES (Uses)
(photocuring of, sensitizers for, for long pot life)

RN 111885-83-7 HCA

CN 2-Propenoic acid, polymer with (chloromethyl)oxirane, cyclohexyl 2-propenoate and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

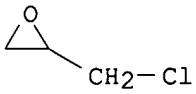
CM 1

CRN 3066-71-5
CMF C9 H14 O2



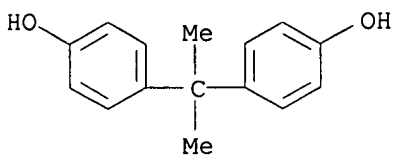
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



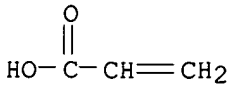
CM 3

CRN 80-05-7
CMF C15 H16 O2

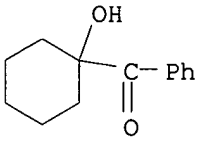


CM 4

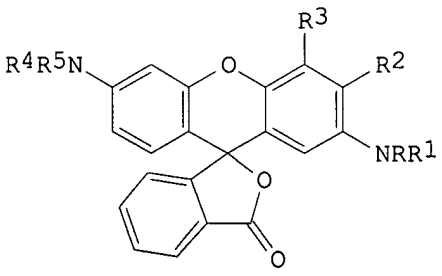
CRN 79-10-7
CMF C3 H4 O2



IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone
RL: USES (Uses)
(**sensitizer**, for **UV**-curable acrylic polymers with long pot life)
RN 947-19-3 HCA
CN Methanone, (1-hydroxycyclohexyl)phenyl- (9CI) (CA INDEX NAME)



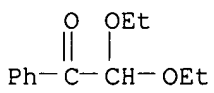
L87 ANSWER 12 OF 12 HCA COPYRIGHT 2003 ACS on STN
93:141030 Phototropic **photosensitive** compositions containing fluoran colorformer. Reardon, Edward Joseph, Jr. (Dynachem Corp., USA). Eur. Pat. Appl. EP 5380 19791114, 78 pp. (English). CODEN: EPXXDW.
APPLICATION: EP 1979-300796 19790509.
GI



I

AB Phototropic compns. contg. a polymerizable, curable, or crosslinkable component, a photoinitiator, a fluoran color-former with the formula I (R,R1 = H, alkyl, alkenyl, alkoxyalkyl, alkoxycarboxylalkyl acyl, aryl, or together form a heterocycle; R2 = H, alkyl, alkoxy, halogen, amino, aryl, aryloxy; R3 = H, alkyl, alkoxy, amino, or the same as R,R1 above; R4, R5 are the same as R,R1 above), and latent activator that releases or promotes the release of a Lewis acid are described. These compns. are esp. useful in the prodn. of dry **film** photoresists for use in the electronics industry to manuf. printed circuits. Thus, a typical compn. contained Acryloid A-101 60.3, trimethylolpropane triacrylate 19.6, tetraethylene glycol diacrylate 9.8, benzophenone 3.4, 2,2'-methylene bis(4-ethyl-6-tert-butyl)phenol 0.18, Modaflow 0.15, tricresyl phosphate 4.31, 4,4'-bis(dimethylamino)benzophenone 0.45, CBr3CONH2 1.51, I (R = Me;

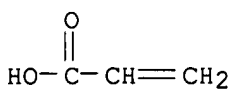
R1 = CH2CO2Et; R2, R3 = H; R4,R5 = Et) 0.3, and MeCOEt 195 parts by wt.
IC G03C001-68; G03C001-733; G03F007-02
CC **74-8** (Radiation Chemistry, Photochemistry, and Photographic Processes)
ST phototropic **photosensitive** compn fluoran; color former fluoran photoimaging
IT Resists
(photo-, dry-**film**, contg. fluoran color formers)
IT Electric circuits
(printed, dry-**film** photoresist contg. fluoran color-former in fabrication of)
IT 86-39-5 87-58-1 87-82-1 88-24-4 90-94-8 95-14-7 96-13-9 98-86-2, properties 103-11-7 107-10-8, properties 108-01-0 108-32-7 115-20-8 119-53-9 119-61-9, properties 121-44-8, properties 126-72-7 128-09-6 134-81-6 144-48-9 306-52-5 486-25-9 492-22-8 515-84-4 530-44-9 558-13-4 594-47-8 594-65-0 598-70-9 918-00-3 927-62-8 1124-05-6 1330-78-5 1529-68-6 1675-54-3 2124-31-4 2223-82-7 2386-87-0 2436-77-3 2461-18-9 2935-44-6 3524-68-3 5398-24-3 **6175-45-7** 6320-96-3 7575-23-7 9011-14-7 9011-14-7 10287-53-3 12542-30-2 13048-33-4 13686-37-8 14779-78-3 15081-02-4 15625-89-5 17831-71-9 22499-12-3 23162-64-3 26672-67-3 29170-71-6 36355-01-8 36511-35-0 37167-59-2 38800-47-4 40715-86-4 52016-01-0 **53814-24-7** 54735-63-6 56927-95-8 66208-29-5 66208-30-8 73003-80-2 73852-13-8 73852-14-9 73852-15-0 73882-79-8
RL: USES (Uses)
(photoimaging compns. contg. fluoran color-former and, phototropic)
IT **6175-45-7 53814-24-7**
RL: USES (Uses)
(photoimaging compns. contg. fluoran color-former and, phototropic)
RN 6175-45-7 HCA
CN Ethanone, 2,2-diethoxy-1-phenyl- (9CI) (CA INDEX NAME)



RN 53814-24-7 HCA
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2

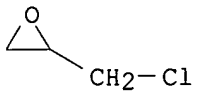


CM 2

CRN 25068-38-6
CMF (C15 H16 O2 . C3 H5 Cl O)x
CCI PMS

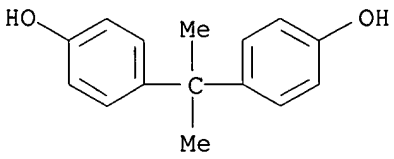
CM 3

CRN 106-89-8
CMF C3 H5 Cl O



CM 4

CRN 80-05-7
CMF C15 H16 O2



=> d L109 1-6 cbib abs hitind hitrn

L109 ANSWER 1 OF 6 HCA COPYRIGHT 2003 ACS on STN
137:126523 Resin compositions, their **coating** materials, **coating films** and manufacture of the **films**.
Asami, Keiichi; Murakami, Tsukasa; Hasegawa, Yugo (Mitsui Chemicals Inc., Japan). PCT Int. Appl. WO 2002057357 A1 20020725, 89 pp. DESIGNATED STATES: W: JP, KR, US; RW: DE, FR, GB. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2002-JP187 20020115. PRIORITY: JP 2001-8618 20010117; JP 2001-8619 20010117.

AB Title compns., having good adhesion to polyolefin **sheets**, foams, or moldings, contain photochem. polymn. initiators and modified thermoplastic resins prepd. by radical polymn. of thermoplastic resins (A; e.g., polyolefins or styrene-based thermoplastic elastomers) and .alpha.,.beta.-monoethylenic unsatd. compd.-based polymers (B) at A/B of 1-9:1-9 in org. **solvents**. Polymg. Et acrylate-2-hydroxyethyl methacrylate-methacrylic acid-Me methacrylate-styrene copolymer with Vestoplast VP 750 in presence of a peroxide in xylene gave a resin soln., which was mixed with Irgacure 500, dild. with xylene to form a **coating** (C1), sprayed on a Tafmer A 4085 **sheet**, dried, UV-cured, further **topcoated** with a compn. (C2) contg. Olester Q 186, TiO2, and Olester NM 89-50G, and baked to form a product showing good adhesion between the C1 and Tafmer A 4085 **sheet** and 180.degree. peeling strength at 50-mm/min between the C1 and C2 of .gtoreq.800 g/cm. The above C1 also applied on polymer foam and showed good adhesion to butadiene rubber or polyurethane **sheets**.

IC ICM C08L051-04
ICS C09D151-04

CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 39

ST acrylic polymer modified polyolefin **photocurable coating** adhesion; thermoplastic styrene rubber modified acrylic polymer **photocurable coating** adhesion

IT Butylene-ethylene rubber
RL: MSC (Miscellaneous)
(Tafmer A 4085, substrates; acrylic polymer-modified polyolefins or

styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT Polyolefins
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, photoured; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT Isoprene-styrene rubber
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenated, block, triblock, Septon 2002; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT Styrene-butadiene rubber, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenated, block, triblock, Septon 8007; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT Epoxy resins, uses
Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(in **coatings**; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT **Coating** materials
(**photocurable**; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT Polyurethanes, miscellaneous
RL: MSC (Miscellaneous)
(**topcoats**, with good adhesion to the **photocurable coatings**; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT **947-19-3**, Irgacure 184 118690-08-7, Irgacure 500
RL: CAT (Catalyst use); USES (Uses)
(acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT 25087-34-7
RL: MSC (Miscellaneous)
(butylene-ethylene rubber, Tafmer A 4085, substrates; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT 53504-00-0DP, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene copolymer, polymers with hydrogenated styrene rubbers 110447-21-7DP, Acrylic acid-ethyl acrylate-2-hydroxyethyl methacrylate-methyl methacrylate-Placcel FM 3-styrene copolymer, polymers with hydrogenated styrene rubbers 434954-03-7DP, polymers with hydrogenated styrene rubbers 443907-29-7P, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-1-butene-ethylene-propylene copolymer 443907-30-0P, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-ethylene-propylene copolymer 443907-31-1P, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-1-butene-propylene copolymer 443907-32-2P, Acrylic acid-ethyl acrylate-2-hydroxyethyl methacrylate-methyl methacrylate-styrene-1-butene-ethylene-propylene copolymer 443907-33-3P, Isobutyl methacrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl

methacrylate-1-butene-ethylene-propylene copolymer 443907-34-4P, Butyl acrylate-butyl methacrylate-2-hydroxyethyl methacrylate-methacrylic acid-styrene-1-butene-ethylene-propylene copolymer 443907-35-5P, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-1-butene-ethylene-propylene-maleic anhydride copolymer 443907-36-6P, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-1-butene-propylene-maleic anhydride copolymer 443907-37-7P, Acrylic acid-ethyl acrylate-2-hydroxyethyl methacrylate-methyl methacrylate-styrene-1-butene-ethylene-propylene-maleic anhydride copolymer 443907-38-8P, Isobutyl methacrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-1-butene-ethylene-propylene-maleic anhydride copolymer 443907-39-9P, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-1-butene-ethylene-propylene-dodecenylsuccinic anhydride copolymer 443907-40-2P, Butyl acrylate-butyl methacrylate-2-hydroxyethyl methacrylate-methacrylic acid-styrene-1-butene-ethylene-propylene-maleic anhydride copolymer 443907-41-3P, Butyl acrylate-butyl methacrylate-2-hydroxyethyl acrylate-methacrylic acid-methyl methacrylate-1-butene-ethylene-propylene copolymer 443907-42-4P, Isobutyl methacrylate-2-ethylhexyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-1-butene-ethylene-propylene copolymer 443907-43-5DP, polymers with hydrogenated styrene rubbers 443907-44-6DP, Isobutyl methacrylate-2-hydroxyethyl methacrylate-methacrylic acid-Placcel FM 3-methyl methacrylate copolymer, polymers with hydrogenated styrene rubbers 443907-45-7DP, Butyl acrylate-butyl methacrylate-2-hydroxyethyl methacrylate-methacrylic acid-Placcel FM 3-styrene copolymer, polymers with hydrogenated styrene rubbers 443907-46-8DP, polymers with hydrogenated styrene rubbers 443907-47-9DP, polymers with hydrogenated styrene rubbers 443907-48-0DP, polymers with hydrogenated styrene rubbers 443907-50-4P 443907-51-5DP, polymers with hydrogenated styrene rubbers 443907-54-8DP, polymers with hydrogenated styrene rubbers 443907-56-0DP, Isobutyl methacrylate-2-ethylhexyl acrylate-methacrylic acid-Placcel FM 3-styrene copolymer, polymers with hydrogenated styrene rubbers 443907-58-2DP, polymers with hydrogenated styrene rubbers 443907-61-7DP, polymers with hydrogenated styrene rubbers 443907-63-9DP, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-Olester NM 89-50G copolymer, polymers with hydrogenated styrene rubbers 443925-20-0P, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-1-butene-ethylene-propylene-Olester NM 89-50GPI200 copolymer 443925-21-1P 443957-10-6P, Ethyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene-ethylene-propylene-maleic anhydride copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cured; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT 108-31-6D, Maleic anhydride, reaction products with epoxy resins or oily polyols or polyesters **25068-38-6**, Epomik R 140 **25068-38-6D**, Epomik R 140, maleated 76775-11-6, Olester F77-60MS 93602-98-3, Denacol EX 941 109319-36-0, Almatex P 646 109319-36-0D, Almatex P 646, maleated 123759-58-0, Olester Q 173 443924-86-5, Olester C 1000 443924-86-5D, Olester C 1000, maleated
RL: TEM (Technical or engineered material use); USES (Uses)
(in **coatings**; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT 25038-32-8
RL: RCT (Reactant); RACT (Reactant or reagent)

(isoprene-styrene rubber, hydrogenated, block, triblock, Septon 2002; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT 9003-55-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(styrene-butadiene rubber, hydrogenated, block, triblock, Septon 8007; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT **947-19-3**, Irgacure 184
RL: CAT (Catalyst use); USES (Uses)
(acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

IT **25068-38-6**, Epomik R 140 **25068-38-6D**, Epomik R 140, maleated
RL: TEM (Technical or engineered material use); USES (Uses)
(in **coatings**; acrylic polymer-modified polyolefins or styrene rubbers for **photocurable coatings** for polyolefin substrates with good adhesion)

L109 ANSWER 2 OF 6 HCA COPYRIGHT 2003 ACS on STN
135:310924 Solid imaging compositions for preparing polypropylene-like articles. Lawton, John Alan; Chawla, Chander Prakash (Dsm N.V., Neth.). PCT Int. Appl. WO 2001075524 A2 20011011, 39 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-NL261 20010329. PRIORITY: US 2000-538940 20000331.

AB This invention discloses compns. adapted to produce, through solid imaging means, excellent quality objects having material properties that simulate the look and feel of polypropylene articles. The compn. comprises at least one compd. from each of the following categories: epoxy-contg. compds., acrylic compds., hydroxy-contg. compds., cationic photoinitiators, and free radical photoinitiators. The objects show the following properties: a tensile modulus in the range of 1000 to 2000 N/mm2, an av. elongation at break of at least 10 and a yield stress of 24 to 40 kN/mm2.

IC ICM G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone
RL: CAT (Catalyst use); USES (Uses)
(free radical initiator in solid imaging compns. for prepg. polypropylene-like articles)

IT 105-08-8DP, 1,4-Cyclohexanedimethanol, polymer with epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols, reaction products with acrylic compds. 2386-87-0DP, polymer with epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols, reaction products with acrylic compds. 3234-28-4DP, 1,2-**Epoxytetradecane**, polymer with epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols, reaction products with acrylic compds. 15625-89-5DP, Trimethylolpropane triacrylate, reaction products with polymer of epoxy compds., acrylic

compds. with multi-hydroxy groups, and/or diols 17557-23-2DP, Neopentyl glycol diglycidyl ether, polymer with epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols, reaction products with acrylic compds. 24979-97-3DP, Polytetrahydrofuran, polymer with epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols, reaction products with acrylic compds. 26951-52-0DP, polymer with epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols, reaction products with acrylic compds. **53814-24-7DP**, polymer with epoxy compds., and/or diols, reaction products with acrylic compds. **55818-57-0DP**, reaction products with polymer of epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols 67905-41-3DP, reaction products with polymer of epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols 366008-00-6P 366008-01-7P 366008-02-8P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(solid imaging compns. for prepg. polypropylene-like articles)

IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone
RL: CAT (Catalyst use); USES (Uses)
(free radical initiator in solid imaging compns. for prepg. polypropylene-like articles)

IT **53814-24-7DP**, polymer with epoxy compds., and/or diols, reaction products with acrylic compds. **55818-57-0DP**, reaction products with polymer of epoxy compds., acrylic compds. with multi-hydroxy groups, and/or diols
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(solid imaging compns. for prepg. polypropylene-like articles)

L109 ANSWER 3 OF 6 HCA COPYRIGHT 2003 ACS on STN
129:162595 Acrylic polymer compositions for lenses and their cured products with good scratch resistance, adhesion, mold releasability, and mold reproducibility. Nakayama, Kenji; Abe, Tetsuya; Kumagaya, Ritsuko; Yokoshima, Minoru (Nippon Kayaku Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10204133 A2 19980804 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-19645 19970120.

AB Title compns., useful for transmission screens, comprise (A) tetrabromobisphenol A polyethoxy mono(meth)acrylates (ethoxylation degree 2-10), (B) epoxy (meth)acrylates and/or urethane (meth)acrylates, (C) other unsatd. compds., and (D) photopolymn. initiators. Cured products from the above compns. are also claimed. Thus, a compn. contg. an urethane acrylate [prepd. from 2-ethyl-2-butyl-1,3-propanediol 160, TDI 348, 2-hydroxypropyl acrylate 247.8, and phenoxyethyl acrylate (I; diluent) 189 parts] 55, tetrabromobisphenol A diethoxy monoacrylate 10.2, I 20, 1,6-**hexane** diacrylate 14.8, and 1-hydroxycyclohexyl Ph ketone 2 parts, was poured into a mold and cured by UV-irradn. to give a Fresnel lens with good scratch resistance, adhesion, mold releasability, and mold reproducibility.

IC ICM C08F290-06
ICS G02B001-04; G02C007-02

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73

IT 999-61-1DP, 2-Hydroxypropyl acrylate, reaction products with ethylbutylpropanediol-TDI copolymer 51160-50-0DP, 2-Ethyl-2-butyl-1,3-propanediol-tolylene diisocyanate copolymer, reaction products with hydroxypropyl acrylate **55818-57-0P**, Epikote 1004 acrylate 211171-22-1P
RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(acrylic polymer compns. for lenses with good scratch resistance,

adhesion, mold releasability, and mold reproducibility)

IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. catalyst; acrylic polymer compns. for lenses with good scratch resistance, adhesion, mold releasability, and mold reproducibility)

IT **55818-57-0P**, Epikote 1004 acrylate
RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(acrylic polymer compns. for lenses with good scratch resistance, adhesion, mold releasability, and mold reproducibility)

IT **947-19-3**, 1-Hydroxycyclohexyl phenyl ketone
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. catalyst; acrylic polymer compns. for lenses with good scratch resistance, adhesion, mold releasability, and mold reproducibility)

L109 ANSWER 4 OF 6 HCA COPYRIGHT 2003 ACS on STN
125:36079 Coating materials for printed boards and their cured compounds.
Nakayama, Kenji; Aizawa, Hiroe; Yokoshima, Minoru (Nippon Kayaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08067832 A2 19960312 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-226102 19940829.

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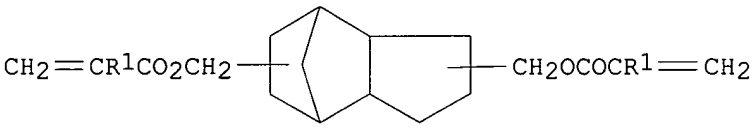

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AB The materials contain di(meth)acrylates I (R1 = H, Me) and photoinitiators and the compds. are prepd. by curing the materials. Thus, **tricyclodecanedimethylol** diacrylate, Vylon 500, Lucirin TPO, and Irgacure 184 were mixed and irradiated with UV light to obtain a cured compd. showing good properties for printed circuit boards.

IC ICM C09D004-02
ICS C08F002-48; H05K003-28

CC 42-13 (Coatings, Inks, and Related Products)
Section cross-reference(s): 76

IT **947-19-3**, Irgacure 184 75980-60-8, Lucirin TPO
RL: CAT (Catalyst use); USES (Uses)
(poly(meth)acrylate-based coating materials with water resistance for elec. circuit boards)

IT 5888-33-5D, Isobornyl acrylate, reaction products with synthetic rubbers 42594-17-2D, reaction products with synthetic rubbers 43048-08-4D, reaction products with synthetic rubbers **55818-57-0**, Epikote 1004 acrylate 178034-00-9
RL: TEM (Technical or engineered material use); USES (Uses)
(poly(meth)acrylate-based coating materials with water resistance for elec. circuit boards)

IT **947-19-3**, Irgacure 184
RL: CAT (Catalyst use); USES (Uses)
(poly(meth)acrylate-based coating materials with water resistance for elec. circuit boards)

IT **55818-57-0**, Epikote 1004 acrylate
RL: TEM (Technical or engineered material use); USES (Uses)

(poly(meth)acrylate-based coating materials with water resistance for elec. circuit boards)

L109 ANSWER 5 OF 6 HCA COPYRIGHT 2003 ACS on STN
124:124355 The strengthening of glass with epoxy resin and Ormosil **coatings**. Wang, F. H.; Chen, X. M.; Hand, R. J.; Ellis, B.; Seddon, A. B. (Centre Glass Research, University Sheffield, Sheffield, S1 4DU, UK). British Ceramic Proceedings, 54(Ceramic Films and Coatings), 119-32 (English) 1995. CODEN: BCPREL. ISSN: 0268-4373. Publisher: Institute of Materials.

AB A series of low modulus epoxy based **coatings** for the strengthening of glass have been investigated. Both **solvent** and water based epoxy resins have been used. Heat-cured systems involving a polyamine hardener and UV cured systems involving photosensitizers have been examd. Significant increases in strength can be achieved with these **coating** systems and performance may be enhanced by the addn. of a silane coupling agent. Dynamic fatigue results indicate that the **coatings** do not prevent subcrit. crack growth but rather reduce the effective crack length thereby giving the obsd. strength increases.

CC 57-1 (Ceramics)

ST glass strengthening epoxy resin **coating**

IT Epoxy resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**coatings**; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT **Coating** materials
(epoxy resins; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT Coupling agents
(silane; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT Glass, oxide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(calcium sodium borosilicate, strengthening of glass with epoxy resin and Ormosil **coatings**)

IT Glass, oxide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(soda-lime, strengthening of glass with epoxy resin and Ormosil **coatings**)

IT 79-10-7, Acrylic acid, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(curing agents; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT **25068-38-6**, Araldite my750 37350-55-3, Araldite my753 **87182-08-9**, Araldite PY 340-2
RL: TEM (Technical or engineered material use); USES (Uses)
(epoxy resin **coating**; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT **947-19-3**, Irgacure 184 24650-42-8, Irgacure 651
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoinitiator**; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT 112-24-3, Triethylene tetramine
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamine hardener; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT 1760-24-3, z6020 2530-83-8, z6040
RL: TEM (Technical or engineered material use); USES (Uses)

(silane coupling agents; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT 9016-45-9, Antarox co880
RL: TEM (Technical or engineered material use); USES (Uses)
(surfactant; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT **25068-38-6**, Araldite my750 **87182-08-9**, Araldite PY 340-2
RL: TEM (Technical or engineered material use); USES (Uses)
(epoxy resin **coating**; strengthening of glass with epoxy resin and Ormosil **coatings**)

IT **947-19-3**, Irgacure 184
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoinitiator**; strengthening of glass with epoxy resin and Ormosil **coatings**)

L109 ANSWER 6 OF 6 HCA COPYRIGHT 2003 ACS on STN
115:282175 Alkenyl ethers and radiation-curable compositions. Vara, Fulvio J.; Dougherty, James A.; Plotkin, Jeffrey S.; Narayanan, Kolazi S.; Taylor, Paul D. (ISP Investments, Inc., USA). PCT Int. Appl. WO 9111467 A1 19910808, 24 pp. DESIGNATED STATES: W: AU; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1990-US6758 19901123. PRIORITY: US 1990-470487 19900126; US 1990-470489 19900126.

AB The title compds. comprise (X)4-nSi(OR1OCH:CHR2)n (I) (X = halogen, OR, H, optionally mixed; R = lower alkyl; ; R1 = C1-8 alkylene, alkenylene, alkynylene, optionally alkoxylated; R2 = H, lower alkyl; n = 1-4) or A[(CH2O)mZrCH:CHR]n (II) [A = carbon atom, OCH:CHR or (C1-10 alkyl)4-n; R = C1-6 alkyl; Z = C2-8 alkylenoxy; r = 0-6; m = 0-1; n = 1-4; provided that m = 0 and n = 1 when A = OCH:CHR, n = 2 or 3 when A = (C1-10 alkyl)4-n and n = 4 when A = carbon]. A radiation-curable compn. comprises 0.1-5 wt.% photoinitiator (contg. .gtoreq.25% cationic photoinitiator); 30-99 wt.% vinyl ether, epoxy ether, epoxy acrylate and/or vinyloxy alkyl urethane; and 1-60 wt.% I; similar compns. contained II. The compns. are fast curing (<1 s) and useful for coatings. Thus, hydroxybutyl vinyl ether, (EtO)4Si, and KOH were reacted at 55-60.degree. evolving EtOH, and was then the mixt, was heated to 110.degree., evolving more EtOH. Distg. the product gave a main fraction at 100-200.degree./3 mm contg. an 85:15 (%) tris(vinyloxybutyl) Et orthosilicate/bis(vinyloxybutyl) and o-silicate mixt. (III). III 50, Epon 828 50, FC-430 **fluorochem**. surfactant 1, FX-512 cationic photoinitiator 4 parts were heated at 50.degree. for homogeneity. Coating on a Al substrate at 1.2 mil and exposing for less than 1 s to 400 mJ/cm2 UV radiation gave a tack-free film which was post-cured at 177.degree. to give tensile hardness F, double MEK rubs >100, and reverse impact <10.

IC ICM C08F002-46
ICS C08G077-14; C08J003-28

CC 42-9 (Coatings, Inks, and Related Products)

IT **947-19-3**
RL: USES (Uses)
(coatings contg., alkenyl ether-based, photocurable)

IT **137340-17-1**
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, photocurable, chem.-resistant)

IT **947-19-3**
RL: USES (Uses)
(coatings contg., alkenyl ether-based, photocurable)

IT **137340-17-1**
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, photocurable, chem.-resistant)

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L111 ANSWER 1 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Kinetic study and new applications of UV radiation curing

L111 ANSWER 2 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Some technological aspects of polymerization of acrylate compositions by pulsed laser irradiation

L111 ANSWER 3 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Molding of decorative boards for pinhole-free glossy surface

L111 ANSWER 4 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Thermosetting pressure-sensitive adhesive material, self-adhesive tape and **sheet**, and manufacture of the tape and **sheet**

L111 ANSWER 5 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Radiation-curable compositions and cured articles

L111 ANSWER 6 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Epoxy-modified polyimides for **photo-sensitive** compositions, coverlay **films**, solder resists and printed circuit boards using them

L111 ANSWER 7 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Efficient curing of performance **coatings** using high peak irradiance UV light

L111 ANSWER 8 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Method for selecting single cells from a monolayer population for DNA analysis by selective modification of photopolymer **overlays**

L111 ANSWER 9 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Pigmented **coatings** cured with visible light

L111 ANSWER 10 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Radiation-curable resin compositions and their cured products

L111 ANSWER 11 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Ultraviolet radiation-curable vinyl polymer resin compositions

L111 ANSWER 12 OF 12 HCA COPYRIGHT 2003 ACS on STN
TI Photocatalyst system and ultraviolet light curable **coating** compositions containing them

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L111 ANSWER 5 OF 12 HCA COPYRIGHT 2003 ACS on STN
136:119284 Radiation-curable compositions and cured articles. Smetana, David A.; Koleske, Joseph V. (Suncolor Corporation, USA). PCT Int. Appl. WO 2002006371 A2 20020124, 76 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN:

PIXXD2. APPLICATION: WO 2001-US41273 20010705. PRIORITY: US 2000-616201 20000713.

AB A radiation-curable compn. in a liq. or solid form comprises at least one solid, non-cryst. radiation-transmissible material, dispersed in at least one cationic-curable or free-radical curable compn. or mixt. thereof. The solid, non-cryst. radiation-transmissible materials comprise glasses and other suitable materials that transmit (i.e., are transparent to) at least about 40 of radiation having a wavelength from about 180 to about 600 nm. The cationic-curable compns. comprise at least one cycloaliph. epoxide, at least one polyol, and at least one cation-generating **photoinitiator**. The free-radical curable compns. comprise at least one ethylenically unsatd. compd. and at least one free-radical-generating **photoinitiator** unless electron beam curing is used, in which case the amt. of **photoinitiator** can be reduced or even eliminated. The solid forms of the radiation-curable compns. of the invention are useful as powder **coatings** for **coating** decorative and functional objects and that would be cured by a thermal heating flow process followed by radiation exposure. The cured compns. of the invention are useful as **coatings** and inks for metal, paper, plastics, glass, ceramics, and wood, as adhesives, as sealants, and as composite materials and other articles. The cured compns. of this invention also are useful in biomedical and dental applications, including prosthetic devices such as dentures; **coatings**, fillings, and caps for teeth; and the like.

IC ICM C08G059-00

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 42, 63

IT Borosilicates
RL: TEM (Technical or engineered material use); USES (Uses)
(**potash**; radiation-curable compns. and cured articles)

IT **Coating** materials
(radiation-curable compns. and cured articles)

IT 119-61-9, Benzophenone, uses 5495-84-1, SPEEDCURE ITX **6175-45-7**, 2,2-Diethoxyacetophenone 7473-98-5, 2-Hydroxy-2-methyl-1-phenyl-1-propanone 139301-16-9, SarCat CD-1012 149260-52-6, Esacure KIP 100F 390388-69-9, Cyracure UVI 6976
RL: CAT (Catalyst use); USES (Uses)
(radiation-curable compns. and cured articles)

IT 96-08-2, Limonene diepoxide 2386-87-0, 3,4-Epoxycyclohexylmethyl-3,4-epoxycyclohexane carboxylate 3130-19-6, Bis(3,4-epoxycyclohexylmethyl)adipate **53814-24-7**, Bisphenol A-epichlorohydrin copolymer diacrylate 54735-63-6, TONE 0301
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(radiation-curable compns. and cured articles)

IT **6175-45-7**, 2,2-Diethoxyacetophenone
RL: CAT (Catalyst use); USES (Uses)
(radiation-curable compns. and cured articles)

IT **53814-24-7**, Bisphenol A-epichlorohydrin copolymer diacrylate
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(radiation-curable compns. and cured articles)

L111 ANSWER 6 OF 12 HCA COPYRIGHT 2003 ACS on STN

136:20552 Epoxy-modified polyimides for **photo-sensitive** compositions, coverlay **films**, solder resists and printed circuit boards using them. Okada, Yoshifumi; Hara, Masayuki; Nojiri, Hitoshi (Kanegafuchi Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001335619 A2 20011204, 28 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-396893 20001227. PRIORITY: JP 1999-373681 19991228;

JP 2000-62319 20000307; JP 2000-84769 20000324.

AB The compns. having good low-temp. processability and giving cured products with good resistance to heat, contain epoxy-modified polyimides (A) and **photoinitiators**, where the A is obtained by modifying OH or COOH group-contg. polyimide polymers with epoxy compds. Thus, prepg. a polyimide from bis[4-(3-aminophenoxy)phenyl] sulfone, 2,2'-bis(4-hydroxyphenyl)propane dibenzoate 3,3',4,4'-tetracarboxylic dianhydride and diaminobenzoic acid with Mw 65,000 and Tg 190.degree., dissolving the polyimide 33 in dioxolane 66, and mixing with allyl glycidyl ether 2.85 in dioxolane 25 g at 70.degree. for 2 h gave a modified polyimide 100 g of which was combined with 4,4'-diaminodiphenyl sulfone 0.5, bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide 0.5, isocyanuric acid tri(ethane acrylate) 30 and Epikote 828 3 g to give a photo-curable compn. useful for forming a coverlay **film** for printed circuit board.

IC ICM C08G059-40
ICS C08J005-18; G03F007-038; H05K003-28; G03F007-004; C08L063-00

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 76

ST elec printed circuit board coverlay **film** photo curable resin; epoxy modified polyimide photo curable coverlay **film** circuit board; solder resist photo curable epoxy modified polyimide resin; heat resistance solder resist photo curable epoxy modified polyimide

IT Heat-resistant materials
Printed circuit boards
Solder resists
(epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT Polysiloxanes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-polyimide-; epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT Polyimides, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-siloxane-; epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT Polyimides, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy; epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT Crosslinking
(photochem.; epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-; epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-siloxane-; epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT 80-08-0DP, 4,4'-Diaminodiphenyl sulfone, crosslinked with epoxy modified polyimide-siloxanes 106-91-2DP, Glycidyl methacrylate, reaction products with epoxy-modified polyimide-siloxanes 2373-98-0DP, epoxy-modified polyimide-siloxane polymers 2770-50-5DP, epoxy-modified polyimide-siloxane polymers **25068-38-6DP**, Epikote 828, crosslinked with epoxy modified polyimide-siloxanes 30203-11-3DP, Bis[4-(3-aminophenoxy)phenyl] sulfone, epoxy-modified polyimide-siloxane polymers 40220-08-4DP, Tris(2-hydroxyethyl)isocyanuric acid triacrylate, crosslinked with epoxy modified polyimide-siloxanes 378230-19-4P 378230-20-7P 378230-21-8P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

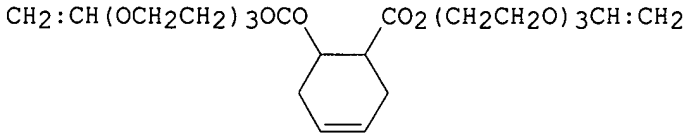
IT 97917-34-5D, polyimide compds., epoxy-modified
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT 90-93-7, 4,4'-Bis(diethylamino)benzophenone 77473-08-6 113739-12-1, 3,3'-Carbonylbis(7-dimethylamino)coumarin 125054-47-9, Adeka Optomer SP 170 **162881-26-7**, Bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide
RL: CAT (Catalyst use); USES (Uses)
(**photoinitiators**; epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT **25068-38-6DP**, Epikote 828, crosslinked with epoxy modified polyimide-siloxanes
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

IT **162881-26-7**, Bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide
RL: CAT (Catalyst use); USES (Uses)
(**photoinitiators**; epoxy-modified polyimides for **photo-sensitive** compns., coverlay **films**, solder resists and printed circuit boards using them)

L111 ANSWER 10 OF 12 HCA COPYRIGHT 2003 ACS on STN
120:300219 Radiation-curable resin compositions and their cured products.
Yokoshima, Minoru (Nippon Kayaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 05310811 A2 19931122 Heisei, 7 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1992-143728 19920511.
GI



I

AB The title resin compns. with improved curability, giving glossy and hard cured products, contg. polyester-polyvinyl ethers contg. 2-6 vinyl ether groups and .gtoreq.1 cyclohexene ring and **photosensitive** cationic polymn. catalysts are prepd. Thus, a mixt. of 180 mL methylene chloride and 20.69 g 4-cyclohexene-1,2-dicarboxyl dichloride was stirred at 25.degree., then a mixt. comprising 35.2 g triethylene glycol monovinyl ether, 42.8 mL Et3N, 0.36 g 4-dimethylaminopyridine, and 300 mL methylene chloride was added dropwise to the mixt. and stirred for 1 h, washed, and evapd. to give a pale yellow and liq. I (polyester divinyl ether), 100 parts of which and 2 parts SP 170 (catalysts) was applied (2 .mu.m-thickness) to an oily ink-**coated** paper and exposed to UV-irradn. to show fast curability.

IC ICM C08F002-50
ICS C08F002-50; C08F016-32; C08F299-02

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

ST polyester polyvinyl ether **photocurability**

IT Polymerization catalysts
(**photosensitive**, cationic, prepn. of polyester-polyvinyl ethers in presence of)

IT Polyesters, preparation
RL: PREP (Preparation)
(polymers, with vinyl ethers, prepn. of, **photocurable**, glossy)

IT **947-19-3**, Irgacure 184
RL: USES (Uses)
(photopolymn. initiators, for polyester-polyvinyl ethers)

IT 125054-47-9, SP 170
RL: USES (Uses)
(**photosensitive** cationic polymn. catalysts, prepn. of polyester-polyvinyl ethers in presence of)

IT 154881-79-5P **154881-81-9P** 154881-83-1P 154881-84-2P
154881-85-3P 154881-86-4P
RL: PREP (Preparation)
(prepn. of, **photocurable**, glossy)

IT **947-19-3**, Irgacure 184
RL: USES (Uses)
(photopolymn. initiators, for polyester-polyvinyl ethers)

IT **154881-81-9P**
RL: PREP (Preparation)
(prepn. of, **photocurable**, glossy)

L111 ANSWER 11 OF 12 HCA COPYRIGHT 2003 ACS on STN
119:252337 Ultraviolet radiation-curable vinyl polymer resin compositions. Fukushima, Naomi; Ichinose, Eiju; Ishikawa, Hidenori (Dainippon Ink & Chemicals, Japan). Jpn. Kokai Tokkyo Koho JP 05117343 A2 19930514 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-286376 19911031.

AB The title compns., showing resistance to scum formation and useful for **coatings** and lithog. inks, contain ethylenically unsatd. polymerizable compds. and drying oil-modified epoxy esters modified with vinyl polymers, optionally with photopolymn. initiators or **light**

sensitizers. Thus, safflower oil fatty acid 200, Epiclon 1050 200, and fumaric acid 5 parts were heated at 200.degree. to give an epoxy ester, 100 parts of which was treated with Et methacrylate 20, vinyltoluene 23, and methacrylic acid 7 parts in Butyl Cellosolve in the presence of Bz2O2 to give a vinyl polymer- and drying oil-modified epoxy ester resin which was heated to 130.degree. in vacuo to give 97% nonvolatiles, mixed with 50 parts Photomer 4072, and used in an ink showed good scumming resistance.

IC ICM C08F299-00
ICS C08F002-44; C08L063-10
ICA C09D004-00; C09D163-10
CC 42-12 (Coatings, Inks, and Related Products)
ST UV curing resin **coating** ink; crosslinking UV resin **coating** ink; scum resistance resin UV curing; vinyl polymer **photocuring coating** ink; drying oil epoxy **coating** ink; fumarate epoxy **photocuring coating** ink
IT **Coating** materials
(scumming-resistant, UV-curable, epoxy ester resins modified by drying oils and vinyl polymers for)
IT **Light-sensitive** materials
(**UV**, epoxy ester resins modified by drying oils and vinyl polymers, for **coatings** and inks)
IT Fatty acids, esters
RL: USES (Uses)
(linseed-oil, esters, with epoxy resins and vinyl compds., binders, UV-curable, for **coatings** and inks)
IT Epoxy resins, compounds
RL: USES (Uses)
(reaction products, with drying oils and vinyl polymers, UV-curable, for **coatings** and inks)
IT Fatty acids, esters
RL: USES (Uses)
(safflower-oil, esters, with epoxy resins and vinyl compds., binders, UV-curable, for **coatings** and inks)
IT 15625-89-5 53879-54-2, Photomer 4072
RL: USES (Uses)
(UV-curable modified epoxy ester resins contg., for **coatings** and inks)
IT 79-41-4D, polymers with modified epoxy ester resins and acrylic monomers 80-62-6D, polymers with modified epoxy ester resins and acrylic monomers 97-63-2D, Ethyl methacrylate, polymers with modified epoxy ester resins and acrylic monomers 100-42-5D, polymers with modified epoxy ester resins and acrylic monomers 25013-15-4D, Vinyltoluene, polymers with modified epoxy ester resins and acrylic monomers **25068-38-6D**, Epiclon 4050, reaction products with linseed oil fatty acids, polymers with vinyl compds. **61529-47-3D**, reaction products with safflower oil fatty acids, polymers with vinyl compds.
RL: USES (Uses)
(binders, for **coatings** and inks, scum-resistant, UV-curable)
IT **947-19-3**, Irgacure 184 24650-42-8, Irgacure 651
RL: CAT (Catalyst use); USES (Uses)
(catalysts, **photocurable** lithog. inks contg.)
IT **25068-38-6D**, Epiclon 4050, reaction products with linseed oil fatty acids, polymers with vinyl compds. **61529-47-3D**, reaction products with safflower oil fatty acids, polymers with vinyl compds.
RL: USES (Uses)
(binders, for **coatings** and inks, scum-resistant, UV-curable)
IT **947-19-3**, Irgacure 184
RL: CAT (Catalyst use); USES (Uses)